The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 667.—Vol. XVIII. LONDON, SATURDAY, JUNE 3, 1848. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

ANGOVE *v.* EDWARDS AND OTHERS.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date the 13th day of May inst., Order and Decree that a SALE be made of the PARTS or SHARES and INTEREST of the defendants in CREEGLASE MINE, in the parishes of ST. HILARY and PERRANUTHNOE, within the said Stannaries, under the direction of the Registrar of this Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the said Order or Decree,

Notice is hereby given, that, pursuant to the said Decree, a PUBLIC AUCTION will be HOLDEN at the THREE TUNS INN, in PENZANCE, on Tuesday, the 6th day of June next, at Three o'clock in the afternoon, for SELLING, in such lots as shall be then and there determined on, EIGHT (216ths) PARTS or SHARES, of and in the said mine; and the like PARTS or SHARES, of and in the ORES, HALVANS, MACHINERY, and MATERIALS, and other EFFECTS upon and belonging to the said mine.

For further information, application may be made to Mr. Chilcott, plaintiff's solicitor.

Dated Registrar's Office, Truro, May 20, 1848.

TREVIL RAILROAD SHARES.—TO BE SOLD, BY AUCTION, by Mr. JOHN WILLIAMS, on Tuesday, the 6th day of June, 1848, at the ANGEL HOTEL, ABERGAVENNY, at Four o'clock in the afternoon precisely (by order of the executor of the late Mrs. Elizabeth Horton), FOUR SHARES in the TREVIL RAILROAD COMPANY, in lots of one share each.

This company has been long established—is in good working condition, and has been paying an excellent dividend for many years; which circumstances will render the purchase of these shares a very desirable investment.

For particulars apply to Mr. J. W. Sloper, solicitor, 6, Vernon-place, Bloomsbury-square, London; or of Mr. John Williams, auctioneer, Abergavenny.

PEREMPTORY SALE OF MINING MATERIALS.

MR. TREVENA is instructed to SELL, by PUBLIC AUCTION, on Tuesday, the 13th day of June next, at Eleven o'clock in the forenoon, at NORTH WHEAL BULLER, otherwise GREAT SOUTH TOLGUS MINE, near REDRUTH TOWN, the following valuable MATERIALS—viz.:

A STEAM-ENGINE, 40-inch cylinder, complete.

Balance-bob, capstan and shears, complete, 6 9-feet 6-inch pumps, 6 6-feet 6-inch ditto, 1 9-feet 6-inch plunger-pole, stuffing-box and gland, 1 4-feet 6-inch windbore, 1 9-feet 7-inch pole case, 2 horse-whims, cisterns, ladders, shaft dividings, faggoted strapping plates, connection caps, 1 40-inch, and 1 30-inch, smiths' bellows, miners' tools, new and old iron, new American and Norway timber, about 4000 feet of plank, and 3000 feet of quarter and other useful timber, a quantity of brick and slate, a miner's dial, &c.

Also, THE ACCOUNT-HOUSE FURNITURE,

Consisting of kitchen table and chairs, office table and desk, a quantity of earthenware, wine and other glasses, knives and forks, waiters, table cloths, towels, metal tea-pot, milk jug, table and tea spoons, with sundry other articles deserving the attention of miners and others.

The whole of the above will be sold without reserve, and may be viewed on application at the mine.—For further particulars, apply to Messrs. Hodge and Hockin, solicitors, Truro; or at the office of the auctioneer, Fore-street, Redruth.

Dated May 27, 1848.

VENTONGIMPS MINE.—A 50-inch cylinder STEAM-ENGINE and valuable MINE MATERIALS FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at VENTONGIMPS MINE, in the parish of PERRANZABULOE, a 50-inch cylinder STEAM-ENGINE, with wood-work, first piece of rod and boiler, about 13 tons, in excellent condition. Also, one BOILER, about 10 tons, almost new.

120	Fathoms of 13-inch capstan rope, very good.	1	11-inch door-piece.
25	9-feet 17-inch pumps.	1	10-in. ditto, with sundry matching pieces.
8	9-feet 16-inch ditto.	1	9-feet 9-inch pole case, with stuffing-box and gland.
4	9-feet 15-inch ditto.	1	9-inch pole, with plunger, complete.
6	9-feet 13-inch ditto.	1	9-feet 16-inch pole.
2	9-feet 11-inch ditto.	2	10-feet 16-inch ditto.
5	9-feet 8-inch ditto.	2	Balance-bobs and 1 V-bob.
1	9-feet 16-inch working-piece.	1	Large capstan and shears.
1	12-feet 10-inch ditto.	1	Small capstan.
1	9-feet 17-inch windbore.		Steam pipes.
1	16-inch ditto.	1	Horse engine and 1 horse whim.
1	15-inch ditto.	40	Fathoms iron stave ladders.
1	11-inch ditto.	5	Pieces 12-inch main rods, each about 50 feet.
2	10-inch ditto.		
1	16-inch H and top door-piece.	1	42-inch smiths' bellows.
1	15-inch door-piece.	1	36-inch ditto.
1	12-inch ditto.		

2 anvils, smiths' mandril, smiths' and miners' tools, several pieces of Norway balk and yellow pine timber, 2 cisterns, launders, a large lot of old timber, a set of large iron blocks, 2 small double ditto, tram waggons, whim kibbles, flange and rod pins, bucket prongs, handscrew, a large beam, scales, and stand, brass and iron weights, several tons of rod plates and tramroad iron, staples and glands, brass bell, pick hilts, a quantity of new and old iron, nails, brasses, and a variety of other mining materials.

The whole of the above materials are in good condition, will be offered for sale at reasonable prices, and may be viewed at any time by application to Capt. John Grose, at the mine.—For further particulars, and to treat for the same, apply to Mr. Thomas Blenkinsop, St. Agnes; or to J. J. Iselin, Esq., 4, Austinfriars, London.

Dated St. Agnes, May 16, 1848.

VALUABLE SEA-SALE COLLIERIES TO BE LET.—TO BE LET, and entered upon on the 1st of July next, the valuable current-working COLLIERIES of EVENWOOD and NORWOOD, in the county of Durham.

These collieries are situated upon the line of the Stockton and Darlington Railway, by which the coals are conveyed to the shipping ports of Stockton and Middlesborough; and also, by means of this, and the York and Newcastle, and Leeds and Thirsk Railways, the coals have access to the important land-sale trade of Northallerton, Thirsk, Ripon, York, the lead-mining districts, and other towns in Yorkshire, and for shipment on the Ouse; and, by means of the proposed Northern Counties Union Railway, with the important land-sale trade of the western parts of Yorkshire and Westmoreland.

The royalties are very extensive. Two seams of coal are in working—one upwards of 6 feet, and the other of 3 feet. The pits are at a moderate depth from the surface, and the coal is worked at an exceedingly cheap rate, and is much prized as a household coal, both for export and land-sale.

The entering tenant has the option of taking what stock he may require, at a valuation; and the amount of capital required to enter upon the collieries will be of very small amount.

For particulars apply to Thomas Wheldon, Esq., Barnard Castle; or to Nicholas Wood, Esq., Newcastle-upon-Tyne.—Newcastle, March 3, 1848.

TO BE SOLD, BY PRIVATE CONTRACT, all that well-known LEAD MINE, situate in the parish of CLYNNOG, in the county of Carnarvon.—A shaft, of 13 yards, has been sunk there, and the lead was then immediately discovered, after which the proprietors caused a level to be driven of from 29 to 30 yards, under the place where the lead was first found, which will effectually prevent water interfering with the work, and have got now to within 10 yards of the principal vein.

Its contiguity to the sea (the work being only half a mile from the same), makes the carriage to the place of exportation a mere trifle. A great deal might be said in an advertisement, by way of endeavouring to enhance the value of the mine, but the proprietors are only anxious that any person or persons, who may feel desirous of purchasing, will take a view of the premises for his or their satisfaction. Specimens of the lead have been analysed by the most experienced persons; it runs the standard, and will produce 5 ozs. of silver in each ton. The proprietors will have no objection to continue to hold 4-16ths, if required.

Particulars (by letters, or otherwise) may be had on applying to Mr. Robert Jones, Tyn'rallt, near Carnarvon.—May 22, 1848.

IMPORTANT TO CAPITALISTS.—TO BE SOLD, an excellent SLATE and SLAB QUARRY—VARIEGATED MARBLE and HONE QUARRY—COPPER and LEAD MINES—all situated on the same property, within a short distance of the shipping harbour of Portmadoc, Carnarvonshire.

A GENERAL STATEMENT.

The above works are situated on a farm called Croeswrr-uchaf, in the parish of Llanfrothen, in the county of Merioneth, about seven miles distant from the shipping harbour of Portmadoc, and about two and a half from the railway of the Festiniog Slate Quarries to the port. They are near the celebrated quarries of Festiniog, which are well known throughout Europe; and it hath been ascertained, by competent judges, that this slate vein is a continuation of the very productive vein worked by the Welsh Slate Company at that place, of which Lord Palmerston and other noblemen are partners, which send about 500 tons per week of fine slate to the market. The vein is about 70 yards wide, and very advantageous for working, being situated on the brow of a hill, and the rubbish thrown down, where there is a depository of 200 or 300 yards deep for it, without causing any trespass. The quality is good, splits well, and is of a beautiful blue colour.—Slates of the largest size are made from it, and slabs also, of large dimensions. Thousands of fine slates, worked to sizes, and beautiful slabs, are now ready on the bank.

The proprietor has ascertained most positively that no other slate quarries in Wales can produce such beautiful specimens from so near the surface, and where so little money has been expended.

The MARBLE and HONE adjoins the slate quarry, and some splendid specimens of variegated marble and hone have been already made from it.

The COPPER and LEAD MINES are about a quarter of a mile from the slate quarry, and the metals are of superior quality, and likely to become very productive.

There is the greatest facility for carrying on operations at all the works, which may be done with little expense, as few or no machinery will be required. A sawing and planing engine may be worked by water, just below the quarry.

Satisfactory reasons will be given why it is sold.

For further particulars, and to treat for the same, apply (postage paid) to Mr. Richard Jones, printer and auctioneer, Doigelly, North Wales, where specimens of the slates, marble, hone, copper, and lead, may be seen.

GLAMORGANSHIRE—A VALUABLE COLLIERY FOR SALE.—The COLLIERY is situate within 6 miles of the sea-port town of SWANSEA, with which it communicates by canal. It is worked by level, and the coal can be delivered on board ship at Swansea, at a very small cost—expensive machinery being quite unnecessary for the proper working of the colliery. It is now in good working order, and in a fit state to supply 100 tons of coal per diem; and, with a trifling outlay, could supply a very much larger quantity.

The large coal is used for steam purposes, and the small coal can readily be disposed of to a Patent Fuel Company, lately established at Swansea; it is also suited for burning lime and other purposes.

For further particulars, apply to Richard Jenkins, solicitor, Swansea.

HEALY FIELD LEAD AND SILVER MINES, in the parish of LANCHESTER, in the county of Durham.—FOR SALE, by PRIVATE CONTRACT, the above-mentioned MINES, together with all the MACHINERY and MATERIALS thereon.—These mines, which are held by lease from the Dean and Chapter of Durham, are now, and have been for many years past, in full course of working, and the produce has been considerable. The ore yielding a high per centage of lead, and from 20 to 25 ounces of silver to the ton. The mines are well stocked with water-wheels, and all machinery necessary for extensive operations, and the prospects for deeper and more extended trials are most encouraging.

The agent on the mines, Mr. Wm. Forster, is instructed to render every facility and information to parties visiting the mines; and for further information apply to Mr. Eddy, of Grassington, near Skipton, in the West Riding of Yorkshire, who is authorised to treat for the same, and by whom satisfactory reasons will be given for the retirement of the present proprietors.—Dated May 18, 1848.

TO BE SOLD, OR LET, a valuable COAL MINE, in the township of GREAT HARWOOD, in the county of Lancaster. The mine has been recently proved, and found to be 3 feet 2 inches in thickness, and of excellent quality; it is commonly called, or known, by the name of the UPPER MOUNTAIN MINE, and extends over about 1000 statute acres, which will be divided into suitable lots.

The property is situated between the towns of Blackburn and Clitheroe, and is intersected by a branch of the East Lancashire Railway.

A section of the borings may be seen, by applying to Mr. Boosie, Rufford-hall, Ormskirk; or to Mr. Whittle, coal viewer, Charnock Richard, Chorley—to either of whom proposals may be sent.

TO BE LET, for a term of years, several large VEINS, or LODES, of BLACK HEMATITE IRON ORE, now open, and in work. The richness of the ore is equal, if not superior, to any in the kingdom. Distant from the sea-port 6 or 7 miles; and, from that place, water carriage (16 miles) to the several iron-works in Glamorganshire and Monmouthshire. Furnaces and machinery, by water-power, are close adjoining to the mine.—Further particulars to be had, by letter, addressed to Mr. J. Woolcott, Sandhill Park, Taunton.

DOROTHEA SLATE QUARRY—TO BE LET, for the remainder of the term of the lease.—It is in full work, yielding slate of the first quality, and will produce 500 tons a-month. It is situated 9 miles from Carnarvon, on the line of the Nantlle Railway.—Apply to Mr. Thomas Turner, Carnarvon.—April 15,

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STEAM-ENGINE FOR SALE.—FOR SALE, an excellent STEAM-ENGINE, of 85-in. cylinder, suitable for mines, collieries, water-works, iron-works, &c.

The above-named engine is at TRENOW CONSOLS, near MARAZION, CORNWALL, and is 10-ft. stroke, equal beam, of the best construction, and in perfect working condition, having been used for a comparatively short period.

Application to be made to Mr. Henry Thomas, Mining Office, 8, George-yard, Lombard-street, London; or Mr. Francis Pryor, Bell Cottage, Gwennap.—Dated May 25, 1848.

COOMBE TIN MINE.—At a Special General Meeting of the shareholders, held on the 9th of May, 1848, in pursuance of notice, at the George the Fourth Assembly Rooms, Woolwich, it was unanimously resolved to abandon the working of the above mine, and that the materials, tools, &c., belonging to the said company, be valued, and sold by private contract, that the affairs of the mine may be finally adjusted.—All PARTIES having any CLAIM on the COOMBE TIN MINE, are requested to make it on or before the 9th of June, 1848.—By order of the managing committee,

Office, 7, Powis-street, Woolwich. R. C. MANUEL, Secretary.

It was also resolved,—That a new company be formed under the new grant, and that the mine shall be called the "Runnaford Coombe Mine," allowing each shareholder in the former mine the option of holding the same number of shares in the new, by conforming to the rules laid down, of which notice has been given.

CRAIG DDU SLATE QUARRY.—At a General Meeting of shareholders in the Craig Ddu Slate Company, held pursuant to notice, at the office of the company, 35, Moorgate-street, London, on Tuesday, the 30th May, 1848,

JOHN MORGAN, Esq., in the chair,

The report and account submitted to the shareholders having been read—

Resolved unanimously,—That the same be adopted, and have the company's seal affixed thereto.

Resolved unanimously,—That William Wright Manifold, Esq., be re-elected a director of the company.

Resolved unanimously,—That Isaac Dighton, Esq., be elected a director in the company, in the place of Mr. Henry Morris, resigned.

Resolved unanimously,—That Mr. A. Hall and Mr. W. Peploe be elected auditors of the company for the year ensuing.

Resolved unanimously,—That the preliminary deposit of 2s. 6d. on all shares for which the deed has not been signed, be forfeited.

Resolved unanimously,—That the draft deed of arrangement, prepared by the solicitor, F. Farrar, Esq., and now read to the shareholders, be approved, and completed forthwith.

Resolved unanimously,—That the cordial thanks of this meeting be presented to the chairman, for his able conduct in the chair.

Resolved unanimously,—That the thanks of this meeting be presented to the directors, for their past services.

Resolved unanimously,—That the thanks of this meeting be presented to the secretary, Mr. R. G. Erlam, for his exertions and attentions to the interests of the company.

LAND DRAINAGE.—Mr. W. HUGHES, Civil Engineer, begs to announce, that he undertakes the INSPECTION of ESTATES to be DRAINED, the SETTING OUT of DRAINS, the RECLAMATION of LAND, and the GENERAL SUPERINTENDENCE of WORK, at a FIXED CHARGE PER ACRE, according to the extent of land.—Full particulars may be had on application to Mr. W. Hughes, C.E., at the office of the *Mining Journal*, 26, Fleet-street, London.

ADCOCK'S PATENT SPRAY PUMP.—This important INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 2, Moorgate-street, London, where pamphlets, descriptive of the invention, may be had; at the office of the *Mining Journal*, 26, Fleet-street; and through any respectable bookseller—price 6d.

FOURDRINIER'S PATENT SAFETY APPARATUS, for PREVENTING ACCIDENTS IN MINES AND OTHER PLACES, WHEN THE ROPE OR CHAIN BREAKS.

By the ADOPTION of this INVENTION the LIVES of the WORKING MINERS may be PRESERVED, and the PROPERTY of the MINE OWNERS PROTECTED from the serious consequences of either of the following accidents—viz.:

1. From the men, or the load, being precipitated to the bottom of the shaft when the rope or chain breaks: in this case the apparatus is *self-acting*.
2. From either the men, or load, being drawn over the pulley: in this case, also, the apparatus is *self-acting*.
3. From the fearful consequences to men or load of a "whirl," or run: in this case the result is equally *certain*.

A COAL PIT, with the SAFETY APPARATUS ATTACHED to the CAGE, is daily at WORK near BURSLEM, in the STAFFORDSHIRE POTTERIES.

To inspect the apparatus, or to obtain any further information, application may be made to Mr. Edward N. Fourdrinier (the patentee), Cheddleton, near Leek, Staffordshire; or to Mr. Joseph Fourdrinier, 68, Arlington-street, Camden Town, London—who are prepared to GRANT LICENSES for the USE of the PATENT.

Price 10s. 6d., large 8vo., in cloth,

On the Connexion of Geology with Terrestrial Magnetism:

SHOWING

THE GENERAL POLARITY OF MATTER, THE MERIDIONAL STRUCTURE OF THE CRYSTALLINE ROCKS, THEIR TRANSITIONS, MOVEMENTS, AND DISLOCATIONS,

INCLUDING THE

SEDIMENTARY ROCKS, THE LAWS REGULATING THE DISTRIBUTION OF METALLIFEROUS DEPOSITS, AND OTHER MAGNETIC PHENOMENA.

By EVAN HOPKINS, C.E., F.G.S.

With Twenty-four Plates.

London: Richard and John Edward Taylor, Red Lion-court, Fleet-street; to be had also at the *Mining Journal* Office, 26, Fleet-street.

"The book contains very valuable information, somewhat closely connected with topics of great interest to this county," &c.—*Sir C. Lemon, Bart., M.P., in his Address to the Royal Geological Society of Cornwall.*

"The igneous theory has, for some time, been slowly yielding to other views. All the phenomena attributed to fire may be produced by electro-magnetic currents. * * * In this way may be explained the formation of veins, that have long puzzled the geologist. This places geology and magnetism in quite a new light—disclosing a field of labour that promises a brilliant harvest to the persevering investigator."—*Chambers' Jour.*

PARTNERSHIP.—The ADVERTISER, who is an Iron-founder, and Manufacturer of all descriptions of Wrought-Iron work, and carrying on an established business, upon extensive premises, most advantageously situated for land and water conveyance, at a sea-port town, from whence upwards of 7000 vessels clear out yearly, is in WANT of a PARTNER, who can command about £2000, to enable the works and business to be extended commensurate to its requirements. The premises are fitted up with boring apparatus, lathes, screw-cutting and planing machines, and well adapted for business.

Further information may be obtained on application to "G. J. H.," Post-office, Swansea.

TO MINING COMPANIES, SMELTERS, &c.—The ADVERTISERS, two young men, of considerable experience in smelting operations, are desirous of obtaining EMPLOYMENT, having no objections to go to any part of the world. They have been brought up, under the instruction of their father, as furnace builders, and have a thorough knowledge of every description of furnace, from calcining to refining. Being thoroughly versed in all the processes of smelting, they trust they should be found an acquisition, particularly to a foreign mining company.

Address "A. B.," *Mining Journal* Office, 26, Fleet-street, London.

SHEAR LEG, MAST, OR BEARER, FOR RAILWAY VIADUCT—(Goodwin's Patent)—TO BE SOLD, BY PRIVATE CONTRACT. It is well seasoned, 99 feet long, 33 inches diameter, made of the best Dantzic timber, and ready for hooping.—To view the same, and for price and further particulars, apply to Mr. Bluett, mast-maker, Coal Harbour, Blackwall.

MINING SHARES FOR SALE.—FORTY in WHEAL MARY, Redruth—price £15 per share: FIFTEEN in WEST UNITED HILLS—price £10 per share.—Apply personally, at the Mining Offices, 12, Haymarket, where all particulars may be learnt.

MINING OFFICES—Established Five Years.—THOMAS P. THOMAS begs to inform his friends and the public, that he has REMOVED from No. 18, Threadneedle-street, to No. 3, GEORGE-YARD, LOMBARD-STREET, LONDON (late Messrs. Phillips and Tiplady's).

N.B.—Dealer in English and Foreign Funds, Mining, Railway, Gas, and other shares.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON,*

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

MR. JAMES STRIDE, MINING, SHARE, ESTATE, PARLIAMENTARY, and GENERAL AGENT, begs to announce, that he has REMOVED, from 35, Charing-cross, to 27, SPRING-GARDENS,

Mines Inspected and Reported on.

London, 27, Spring-Gardens.

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.*

WILLIAM W. TAYLOR & CO., MINERAL SURVEYORS, MINING SHAREBROKERS, &c., *No. 2, ROYAL EXCHANGE-BUILDINGS, LONDON.*

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

REUBEN FARLEY, MINE AGENT, AND LAND AND MINE SURVEYOR, *WEST BROMWICH, NEAR BIRMINGHAM.*

MONEY.—MESSRS. KILLICK & CO. (late Winstanley, Killick, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.

6, Bank Chambers, opposite the Bank of England.

CAMBORNE CONSOLS MINING COMPANY. OFFICES REMOVED TO 29, POULTRY, LONDON.—May 11, 1848.

CORNISH MINING COMPANY.—OFFICES, No. 15, *MONUMENT CHAMBERS, LONDON.*

BANWEN IRON COMPANY—Established 1846—for WORKING the IRON MINES on the BANWEN ESTATE, in the neighbourhood of SWANSEA, Glamorganshire. The mines are now in work, and further CAPITAL being REQUIRED for erecting additional FURNACES, a portion of the reserved shares of £6 each may now be had, on application at the offices of the company. A deposit of £2 per share to be paid down, and the remainder by two instalments, at intervals of two months. This company offers peculiar advantages, and the profits are estimated to return a dividend of 25 per cent. S. P. HARRIS, Secretary.

Offices, 23, Threadneedle-street.

RHYMNEY IRON COMPANY.—The HALF-YEARLY GENERAL MEETING of the proprietors of this company will be HELD at the company's offices, 7, Laurence Pountney-hill, on Wednesday, the 21st inst., at One o'clock precisely. T. E. SCUDAMORE, Secretary.

Laurence Pountney-hill, June 1, 1848.

MEXICAN AND SOUTH AMERICAN COMPANY, 10, New Broad-street Mews, May 29, 1848.—The THIRTEENTH ANNUAL GENERAL MEETING of the proprietors of shares in the MEXICAN AND SOUTH AMERICAN COMPANY will be HELD at the office of the Anglo-Mexican Mint Company, No. 5, Broad-street-buildings, on Wednesday, the 14th day of June next, at One o'clock precisely. At this meeting a director will be elected, in the place of Henry Ewbank, Esq., who retires by rotation, but is eligible for re-election, and will be proposed accordingly. H. W. SCHNEIDER, Managing Director.

WHEAL SOPHIA MINE, LEZANT, CORNWALL.—Notice is hereby given, that a SPECIAL MEETING of the adventurers of the above mine will be HELD at the Catherine Wheel Inn, Little St. James-street, St. James's, London, on Tuesday, the 6th day of June next, by Three o'clock in the afternoon, for the purpose of giving a report of the proceedings of the mine, a statement of the accounts, taking into consideration the propriety of making a sub-division of shares, and for such other business as shall be deemed necessary. DANIEL WARD, Purser.

Dated Uppaton, May 29, 1848.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camberne, Cornwall.

VENTILATION OF COAL MINES—BIRAM'S PATENT ANEMOMETER.—This INSTRUMENT has now been SUCCESSFULLY EMPLOYED by many eminent engineers, to whom reference can be given.

For particulars, apply either to the inventor, B. Biram, Esq., Wentworth, near Rotherham; or to the maker, John Davis, Derby, manufacturer of miners' dials, clinometers, safety-lamps, and all kinds of instruments appertaining to the engineer, are made and kept in stock.—Repairs promptly attended to. J. DAVIS, Irongate, Derby.

PATENT GALVANISED IRON AND WIRE ROPE WORKS, *MILLWALL, POPLAR.*

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £30, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.

Just published, Part I.,

COMBUSTION of COAL, CHEMICALLY & PRACTICALLY CONSIDERED. With coloured plates.

By CHARLES WYE WILLIAMS, Esq.

London: Simpkin, Marshall, & Co., and J. Weale—*Birmingham:* Wrightson & Webb.

A FLEET OF STEAMERS.—A few days ago, there was an assemblage of steamers in the Coburg Dock, Liverpool, which could not be paralleled in a similar space in any port in the world. The following is a list of the vessels, with an approximation to their tonnage and power:—

	Tons.	Horse-power.
The Great Britain	3500	1200
Niagara	1700	800
Hibernia	1400	600
Caledonia	1200	456
Hibernia	610	370
Alphonse (steam frigate)	600	300
United States	2003	1000
Total	11,080	4720

The six steamers first named are British built, and the *United States* was built in New York. The *Hibernia* has just arrived from New York, and displayed the American ensign at the fore, and the English ensign at the mizen. The *United States* lay ahead of her, seeming to return the compliment by hoisting the English ensign at the fore, and the American ensign at the mizen. The *Niagara* was just in from the graving dock, with steam blowing off, and flags flying. The *Caledonia* was lying quietly in her berth, with yards squared, and everything ready to take her departure for sea. The *Great Britain*—battered, but beautiful—lay towering over all. She wants a little paint and furnishing, but she is great in her ruins.—*Liverpool Times.*

THE LATE MINING PROSECUTION.—It will be recollected that last October a prosecution was instituted by Mr. Caddick against Messrs. Salter and Raybould, the lessees of Lord Dartmouth's collieries, for an alleged felony in getting a portion of coal under the property of the prosecutor. True bills were found at the last assizes, which were removed into the Court of Queen's Bench by *certiorari*. An application was made on Thursday last to the Attorney-General, on behalf of Messrs. Salter and Raybould, to order a *nolle prosequi* to be entered to the indictment, on the ground that the circumstances could not be construed into a felony, and the trial of the indictment would not serve the ends of justice. The Attorney-General thought it was a fit case for a *nolle prosequi*, and granted his fiat accordingly to stay further proceedings.—*Birmingham Journal.*

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DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£20 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

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Doctor of Medicine, Matriculated Member of the University of Edinburgh, Licentiate of Apothecaries' Hall, London, Honorary Member of the London Hospital Medical Society, &c.

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Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Taw Vale Railway and Dock Company—London Tavern, at One.
London and Provincial Joint-Stock Life Assurance Co.—offices, Twelve.
Basingstoke Canal Company—Gray's Inn Coffee-house, at Two.
Croydon Canal Company—George and Vulture Tavern, at Eleven.
Exeter and Crediton Railway—London Tavern, at Two.
Llanelly Railway and Dock Company—offices, at One.
TUESDAY.....Wheal Sophia Mining Company—Catherine Wheel Inn, St. James's, Three.
Grand Junction Canal Company—Crown and Anchor Tavern, at Twelve.
Bank of British North America—offices, at Twelve for One.
WEDNESDAY...Gravesend and Rochester Railway—offices, at One.
Regent's Canal Company - offices, at One.
General Cemetery Company—offices, at Two.
Mutual Life Assurance Company—offices, at Twelve.
Guardian Life Assurance Company—offices, at Eleven.
Belgian Eastern Junction Railway—London Tavern, at One.
University Life Assurance Co.—British Coffee-house, Charing-cross, Four.
THURSDAY.....West Wheal Maria Mining Company—offices, at One.
Lamberooe Wheal Maria Mining Company—offices, at One.
Grand Junction Water-Works Company—offices, at Twelve.
FRIDAY.....St. John del Rey Mining Company—London Tavern, at Two.
SATURDAY.....Deptford, Rotherhithe, and Bermondsey Gas-Light and Coke Company—London Tavern, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

The half-yearly meeting of proprietors was held at the company's offices, Leadenhall-street, on Tuesday last, the 30th May,—Ald. Sir JOHN PIRIE, Bart., in the chair.—The proceedings having been opened, the CHAIRMAN called upon the secretary (Mr. C. W. Howell) to read the following REPORT:—

The board of directors have much pleasure in meeting the proprietors on the present occasion, for the purpose of reporting upon the state and condition of the company, and declaring a dividend for the half-year ending 31st March last. During that period the company's ships have continued to perform, with regularity and efficiency, the service under contract with the Lords Commissioners of the Admiralty; and, although the peculiar severity of the last winter occasioned many heavy losses to the shipping of the United Kingdom, yet the directors feel gratified in being enabled to report that, with the exception of somewhat heavier expenses than usual for repairs, consequent upon such trying weather, the steam-vessels of the company proved well adapted for the arduous services in which they were engaged.

The absence of all casualties to the company's vessels during the period alluded to, has caused the "insurance fund," created for the purpose of meeting losses, to remain undiminished; at the close of the last year it amounted to 123,589*l.* 9s. 4d., and, out of the past six months' profits, it is intended to add the sum of 5100*l.*, which will make that fund amount to 128,689*l.* 9s. 4d. The amount of risk covered on the floating property at Lloyd's, and elsewhere, is about 500,000*l.* The board, with much regret, notice the resignation of Sir John Campbell—an intimation to that effect having been made by the honourable proprietor in January last.

The board of directors, acting in conformity with the powers vested in them by the Deed of Settlement, appointed J. Carter, Esq., a director, to fill the vacancy thus occasioned. Mr. Carter was for 23 years a resident in India, having held, during that period, several offices in the civil service of the East India Company; and the directors submit that, from his experience, as well as from the fact of his being one of the first who came forward to support the undertaking on its original formation in 1840, that gentleman is well entitled to the confidence of the proprietary. Since the last meeting of proprietors, the Lords Commissioners of the Admiralty called for tenders from this and some other companies, for the purpose of conducting the mail-packet service between Marseilles, Malta, and Alexandria—the portion between Marseilles and Malta having hitherto been performed, twice a month, by Admiralty packets. For this service, two vessels of 300-horse power, and one of 250-horse power, were required. Their lordships intimated their intention to merge therein part of the service hitherto performed, once a month, by this company—namely, between Malta and Alexandria, under a temporary arrangement made in 1845. Their lordships have since determined to conduct this branch of the Post-office service with her Majesty's vessels, and have further decided upon discontinuing the semi-monthly mail between Southampton and Malta, which departed on the 3d of each month with Bombay mails. As the only object the directors had in view, in taking this contract in 1845, at an unusually low figure, was to complete the mail arrangements in the Mediterranean connected with India, and thereby to ensure the accommodation and comfort of passengers to and from Bombay, the withdrawal of that service from the company is not expected to diminish their profits; whilst it is the general opinion—and, indeed, it can scarcely be doubted—that the cost of the service, as henceforward to be performed, must be materially increased.

The proprietors are aware that the original contract entered into with the company by her Majesty's Government, in 1840, for the mails to and from Alexandria, was for a period of five years; and that, under the arrangement then made, that mail service is now performed—the amount at present payable for the same being 28,500*l.* per annum. The Lords of the Admiralty having also lately determined upon calling for tenders for this branch of the service, to come into operation in 1849, the directors have submitted a proposition for performing it upon terms which will maintain the interests of the proprietors, and also provide that, in this, or any other future, mail service which may be entrusted to this company, the same shall be performed for the lowest contract payment consistent with efficiency. The directors consider that they are studying the permanent interests of the company, in manifesting to her Majesty's Government that they are actuated by a desire to economise the cost of such services to the public, as far as may be compatible with a due regard to a fair return on the capital embarked in the undertaking. This negotiation is now in progress, and the Lords Commissioners of the Admiralty are about immediately to avail of the proposal made by the directors to afford unreservedly all information, from the company's books and vouchers, respecting the working expenses of the mail contracts conducted by the company.

The directors would here remark, that since the last meeting the subject of printing and circulating the annual accounts of the company has been under their consideration; and they intend to take the sentiments of the proprietors, at the next annual general meeting, upon the propriety of hereafter doing so. Hitherto the board has expressed the opinion, that the period had not arrived when they thought this expedient; and they have been supported in this opinion by many influential proprietors, who have devoted some time to the inspection of the accounts; but inasmuch as exaggerated statements of profits, to the prejudice of the company, have been circulated, arising out of the circumstance of the accounts not having been made public, and as some proprietors have expressed a desire upon the subject, the directors consider it may be advisable to decide the question at the general meeting in December next.

A statement of the profit and loss for the last six months, so far as the same can be made out accurately, will lie on the table, for the information of the proprietors, and may also be inspected by them at any future day, on application to the secretary.

For some time past, the directors have been aware that an anxious desire existed for the establishment of a communication by steam vessels between England and Italy; and they were given to understand that influential parties, who were well informed as to the probable extent of the traffic, if the line were opened, had made arrangements for carrying it out, in the event of this company not undertaking it. It was evident that your interests would not be promoted by a rival establishment being formed in the Mediterranean; and the directors, therefore, took steps to procure accurate information upon the subject. The result, after 12 months' diligent inquiry in Lombardy, and other parts of Italy, was that a large body of the shippers and importers expressed a strong desire to see the line established in the hands of this company, and there appeared a fair prospect for satisfactory returns. The disturbed state of Italy, for some time past, has tended materially to hinder the development of the traffic and passengers' intercourse; but, notwithstanding the political excitement which has thus operated, the returns have been such as to hold out to the directors encouragement to further exertions, and should certain branches of traffic be turned hereafter into the line of steam communication between Italy and England, there can be little doubt that, in the hands of the company, or in those of other parties, profitable employment will be found for vessels so engaged.

Two of your ships have, therefore, been employed upon this line during the last six months, with a view not only to protect the interests of the company in the Mediterranean, but also in the hope that, when the excitement produced by the present state of Italy shall have subsided, merchandise and passenger traffic will be so extended as to justify the present anticipations of the directors. Should they not succeed, it must be very evident that other parties would fail in the effort.

In reference to the importance of diminishing the expenses for carrying on the public services entrusted to this company, which the directors are most anxious to effect, they would here draw the attention of the proprietors to an undertaking in contemplation, which, if carried out successfully, is calculated to afford valuable aid towards accomplishing this desirable object. The heaviest item of expenditure which is incurred by the company is that under the head of fuel. The company's vessels perform annually, in its various branches, little short of 600,000 miles, and the cost for coals in the last 12 months has not been less than 188,000*l.*, in addition to which a large sum is invested in maintaining a full supply of fuel at all its different stations. By far the most expensive part applies to the depôts established in the eastern seas, where an average stock of about 40,000 tons is required to be kept up. The undertaking to which reference is here made, is the Eastern Archipelago Company, the spirited promoters of which have obtained a grant from her Majesty of a charter of incorporation, and are now desirous of procuring subscriptions for the purpose of carrying it into operation, and realising the advantages which that undertaking promises. The discovery of an abundant supply of coals at Labuan, and on the mainland of Borneo, which has been pronounced by the Calcutta Coal Committee to be equal to the best English coal, and better than any hitherto produced in India, is a matter of peculiar interest to this company; and as soon as the operations of the Eastern Archipelago Company are sufficiently matured to admit of their supplying coals, at a reduced rate, to the several depôts at Hong Kong, Singapore, and other places, for the use of your vessels, the saving of expense under this important head will, in that case, be considerable. With the expectations which have been thus brought to the notice of your board, the directors, being desirous of reducing the expense of the mail contract service in that quarter, feel it to be their duty to give every aid in their power to the Eastern Archipelago Company; but the constitution and charter of this company prohibiting the application of any part of the capital for such objects, they are only enabled to draw the attention of individual proprietors to the subject, in the earnest hope that an undertaking, such as the Eastern Archipelago Company (which, if successful, would be highly beneficial to the interests of this company), may be considered as entitled, on those grounds, to receive their support.

Since the annual general meeting, in December, the directors have considered it desirable to send out to India the company's steam-ship, the *Oriental*, of 1780 tons, for the Calcutta and Suez line, and also the *Achilles*, of 1000 tons, to be placed upon the Bombay and China line, as the traffic upon the latter, by the company's ships, has already considerably increased, and is likely still further to extend itself. Hitherto it has been attended with heavy expenses, arising more especially from the necessity of procuring dock accommodation at Bombay. The Mazagon Docks, at that presidency, were the only facilities of that nature procurable there, and they have been leased for a limited time; but, should further extension of the company's establishment of steam-packet vessels at Bombay not take place, it is very probable arrangements may be made, in that case, to effect a considerable reduction in the shore establishment at that station.

The company's new steam-vessel, the *Canton*, intended for service between Hong Kong, Macao, and Canton, is now completed, and will shortly take her departure for China.—The board, in thus strengthening your establishment in India and China, by the addition of these three vessels, the *Oriental*, the *Achilles*, and the *Canton*, has been desirous of placing it in that position of efficiency which will enable the company to rely on its own resources for performing the public service; and, on those grounds, they submit that this interesting, and, in some respects, national undertaking, may claim the continuance of public support.

In the report made in May, 1847, it was stated that the directors contemplated taking the necessary steps, in the course of that year, to issue shares to the proprietors on terms beneficial to them, to represent the additional capital sanctioned by the Lords of the Treasury to be raised; but the state of the money market since that time pointed out to the board the propriety of holding that measure in abeyance, it being considered more desirable to adopt the temporary expedient of employing part of the reserved funds to meet demands legitimately belonging to "capital account." The amount that will be required for this purpose, during the year 1848, cannot exceed from 80,000*l.* to 100,000*l.*; and, as many inquiries have been made by proprietors who are desirous of investing in these securities, the directors will take an early opportunity of adopting the necessary steps, and making known the conditions upon which such additional capital will be raised. It may here be satisfactory to state, that the total amount of outstanding instalments on shares, to this date, does not exceed 3175*l.*

In consequence of the sale of the *Royal Tar*, and the loss of the *Tiber*, in 1847, which circumstances were communicated to you in the 13th report, the directors have purchased the steam-ship *Jupiter*—which vessel is well adapted for the mail contract service on the Peninsular line. By this measure, and by the diminution of the service in the Mediterranean, which will release the *Ariel* from duty there, the directors are now enabled to dispense with the use of any chartered ship; and they have to report that, considering the extent of service to be annually performed, the company has never, since its formation, been in the efficient working state that it is at the present moment.

The company's new steam-ship, the *Euxine*, has been stationed on the Constantinople line, since January last, and, from her great capacity, and superiority in other respects, is admirably adapted for the service she is engaged in, and it is expected will increase the company's receipts upon that important branch of its operations. Reference has been made from time to time, at meetings of the proprietors, to the facilities for transit of passengers and goods through Egypt, and the directors are enabled to state that it has been much improved during the last 12 months. His Highness the Pacha of Egypt requested the directors of this company to contract on his account for the construction of a very superior steam-vessel, for passengers' accommodation on the Nile, which is in course of completion in London; the needful funds for this object have been received by the directors, and it is expected that she will arrive in Alexandria in August or September next.

The balance of profit and loss for six months, after providing for the insurance and repairs accounts, will be 62,629*l.* 11s. 2d., from which the sum of 16,913*l.* (being at the rate of 5 per cent. per annum on the value of the company's ships afloat) has to be deducted, and carried to the credit of depreciation account; the net balance then available for dividend, for the half-year ending 31st March last, will be 45,714*l.* 11s. 2d. The board of directors, therefore, recommend that the usual dividend of 4 per cent. (free of income tax) for the six months be now declared, and become payable on and after the 22d June next.

Mr. J. C. MORRIS, in moving the adoption of the report, expressed his satisfaction at the state of the company's accounts, which he had recently investigated with considerable minuteness. The points on which he had any doubt were only two in number. The first was with regard to the reserve fund of 100,000*l.*, which he found, with the exception of 34,000*l.*, was not invested in any public securities; he had, however, come to the conclusion, that the course pursued by the directors, in this respect, was a most judicious one—inasmuch as the amount, if so invested, would not yield more than 3 or 3½ per cent.; while, under the present system, forming, as it did, a part of the stock of the company, it yielded 8 per cent.—or, in other words, it enabled the company to pay 8 per cent., which could not be the case if the difference in the interest was withdrawn. The other point to which he referred was with regard to the condition of the company in the event of a war.

Mr. F. CARLETON (one of the managing directors) said, it would be impossible to say, with any degree of accuracy, what would be the position of the owners of shipping property in the event of a war; but he had taken the opinion of several practical persons on the subject, and had heard but one opinion expressed—that a war would increase the value of shipping property by from 25 to 50 per cent. He would leave it to others to say how far that expectation might be realised in their particular case. With regard to the reserve fund, he could speak with more accuracy, and would refer to the accounts last made up, showing the accumulations reserved out of profits to meet the several risks of assurance and depreciation of property. The insurance account was 123,589*l.*, and the depreciation account, which was a charge of 5 per cent. on the value of the ships, made every year out of the profits, amounted to 158,319*l.* In the event of a loss of any of the company's ships, there were those two accounts to supply it, in addition to the amount for which any such vessel was insured from the underwriters at Lloyd's. In the case of the *Great Liverpool*, the loss of that vessel had been supplied without touching the original capital of the company. In order that there might be no delay in supplying the place of a lost vessel, the directors had considered it expedient to have several ships in progress, and that plan was always acted on. The capital of the company amounted to the sum of one million—independently of the new capital which the company were authorised to raise. On the score of that amount, they had received in money 974,065*l.*, and they had built ships costing more than 1,176,000*l.* They had also a repair account, which was a per centage charged out of the profits, to provide for anticipated repairs. That account had to its credit, at the present time, from 30,000*l.* to 40,000*l.* He considered that the directors had taken the best means of devoting their money, which, had it been invested in Government securities, would not be worth within 10 per cent. of its present value.

In answer to Mr. Dent, Mr. CARLETON further stated that, in the event of a war, the Government had a right to the company's vessels, the purchase-money to be settled by arbitration.—Some conversation then arose out of remarks made by Mr. DENT, who threw out several suggestions for the management of the company.

After some further conversation, Mr. BURTON seconded the adoption of the report, which was agreed to unanimously. A resolution adopting the dividend proposed was also passed.

Mr. CARLETON then wished, before the meeting separated, to make a short statement in reference to a rumour which had been in circulation some time ago, to the effect that the company not long ago held bad bills to the extent of 60,000*l.* He said they were certainly in a position to encounter heavy losses, because all their remittances must come in bills from the East. During the commercial crisis they had bills running to maturity to the extent of 56,000*l.*, but of those the only bad bill was one for 80*l.*, and of another for 1800*l.*—there was no doubt of their receiving 1800*l.*

Mr. DENT said, that the statement they had just heard reflected great credit on the management, and moved a vote of thanks to the chairman, directors, and managing directors, which was carried with acclamation, and the proceedings terminated.

SOLICITORS' AND GENERAL LIFE ASSURANCE S OCIETY.

The second annual general meeting of this company was held at the Gray's-inn, Coffee-house, on Tuesday, the 30th May—W. JONES, Esq., in the chair.—The SECRETARY read the report of the directors, which, after congratulating the shareholders on the continued prosperity of the society, stated that from the date of their first report 287 proposals had been made to the society, of which 186 had resulted in policies, covering assurances amounting to 96,232*l.* 13s., and producing an annual income of 3225*l.* 14s. 3d. Three annuities had also been granted of the value of 775*l.* The previous report, of the 31st of March, 1847, showed an amount of business equal to 205 policies, for sums amounting to 113,602*l.* 11s., and yielding annual premiums to the amount of 3456*l.* 12s. 3d., and had granted two annuities of the value of 786*l.* 10s. 2d.—the number of policies up to the present time being 389, amounting to 209,925*l.* 4s., the premiums on which give an annual income of 6682*l.* 6s. 6d., the amount assured by each policy being about 540*l.* In all five annuities had been granted of the value of 1561*l.* 10s. 2d. Of the policies issued five had expired and 24 lapsed, the premiums received on which amounted to 443*l.* 2s. 9d. Notwithstanding the unusual mortality which, during the past year, pervaded all parts of the kingdom, three deaths only had occurred among the assured, and the claims arising therefrom amounted together to the comparatively small sum of 800*l.* Of these three deaths, two resulted from the prevailing epidemic. No less than 115 country solicitors had effected policies with this society, and had thus become productive agents. The larger number of these correspondents being shareholders, the remainder received a commission on the business transacted: 250 medical referees had been appointed in various parts of the country, and all the arrangements were perfected for the rapid completion of proposals from any part of the United Kingdom.—The CHAIRMAN, in putting the question that the report be adopted, said, that he had lately been in communication with a gentleman very closely connected with life assurance offices, and who was a great authority on the subject, by whom he was informed, that the accounts filed this year by this society were not only among the best, but the best of any modern assurance company.—The report having been confirmed, the annual vacancies in the direction were filled, auditors for the ensuing year were appointed, and a sum of 300*l.* voted to the directors, and 5*l.* each to the auditors, together with the thanks of the proprietors for their exertions during the past year.—Mr. Commissioner FONBLANQUE returned thanks on behalf of the directors, and showed that it was in a great measure owing to the strict examination instituted by the board into all proposals for policies that, during a year of almost unprecedented mortality, when all other assurance offices had sustained severe losses, this society had had to pay but 800*l.* And as proving the favour with which the association was regarded, he referred to the fact, that notwithstanding the scarcity of money they had effected policies in the last year within seven in number of the preceding year, while the amount was much greater.—Mr. ELIVANT (a proprietor) inquired whether the large number of shares on which he perceived the calls had not been paid, but which had paid the deposit, had been forfeited?—The CHAIRMAN said they were yet in abeyance.—After a conversation as to the desirability of accounts approximating near to the period of meeting being presented with the general accounts, which, by the Act of Parliament, are made up only to the 31st December, while the Deed of Settlement requires the meeting to be held in May—and in the course of which, Mr. CHURCH, one of the auditors, spoke very highly of the straightforward manner in which the accounts were kept—a vote of thanks was passed to the chairman, in acknowledging which he reminded the proprietors of how much could be done in furthering the interests of the society by their individual efforts, and by their explaining to their clients and friends the great advantages of life assurance.

MITRE LIFE ASSURANCE COMPANY.

The annual meeting of this company was held at the office in Pall-mall, on Thursday, June 1—Rev. G. POCOCK in the chair—when a report was presented, in which the directors congratulated the shareholders upon the steady progress of the association, notwithstanding the trying circumstances of the times, which could not fail to be felt to some degree by the Mitre, in common with other institutions of a similar nature. Notwithstanding the unhealthiness of last winter, they had only to record one loss by death during the past year, amounting to only 300*l.*, which sum was more than counterbalanced by the premiums received on lapsed policies alone. Notwithstanding the panic of last autumn, and the political revulsions of the early part of this year, there have been accepted, during the last 12 months, 115 policies, being an excess of 12 over the preceding year. The directors continue to exercise a rigid caution in the acceptance of proposals for insurance, which has led to the rejection of many, amounting to the sum of 776,000*l.*; which, while it diminishes the number of policies issued, the directors believe will raise the character of those effected, and diminish the risk of early claims on the association. In conclusion, the directors recommend the payment of the same amount of dividend as was voted last year—viz.: 5 per cent., upon all moneys paid for shares. The report was adopted, and thanks being voted to the chairman, the meeting separated.

WATERLOO BRIDGE COMPANY.

The half-yearly general assembly of proprietors was held at the Freemason's Tavern, Great Queen-street, on Thursday, 1st of June.

JOHN BEACHNIL, Esq., in the chair.

Mr. POWELL (the secretary) read the report of the committee. The tolls received during the past half-year amounted to 1606*l.* 11s. 1d., being a diminution of 329*l.* 9s. 11d. from the foot, and an increase of 487*l.* on the carriage toll. At the last general assembly the committee reported that, after paying the current charges and expenses, and making a dividend of 3s. 2d. in the 1*l.* in August last, there remained a balance in reserve of 1744*l.* 18s. 7d.; and they had now to report that, after availing themselves of that surplus to the extent of 1187*l.* 10s. 7d. to provide for the interest of the company's bonds, and for a dividend of 3s. in the 1*l.* on the perpetual annuities, in February last, there remained a balance in reserve of 557*l.* 8s. 11d. The committee looked forward with anxiety to the completion of the railway extension from Nine Elms to the Waterloo Bridge-road; and they had now the great satisfaction to inform the proprietors, that the works of this desirable undertaking were in such a forward state, as to lead them to anticipate that the station would shortly be opened; and the committee had appointed the 30th inst. for that purpose. The total receipts of the year had amounted to 7133*l.* 12s. 8d. The report was unanimously adopted, and there being no further business, the meeting separated.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Royal Asiatic—14, Grafton-street	2 P.M.
MONDAY	Entomological—17, Old Bond-street	8 P.M.
	Chemical—Society of Arts, Adelphi	8 P.M.
TUESDAY	Linnæan—Soho-square	8 P.M.
	Horticultural—21, Regent-street	3 P.M.
	Civil Engineers—25, Great George-street	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Ethnological—17, Saville-row	8 P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
	Royal Society of Literature—4, St. Martin's-place	4 P.M.
	Medico-Botanical—32, Sackville-street	8 P.M.
FRIDAY	Astronomical—Somerset-house	8 P.M.
	Royal Institution—Albemarle-street	8½ P.M.
	Philological—12, St. James's-square	8 P.M.
SATURDAY	Royal Botanic—Inner Circle, Regent's-park	3½ P.M.

GEOLOGICAL SOCIETY.

MAY 17.—Sir H. T. DE LA BECHE (President) in the chair.

J. R. Logan, Esq., and the Rev. J. Thornton, were elected Fellows.

A paper, "On some Fossiliferous Beds in the Silurian Rocks of Wigtonshire and Ayrshire," by J. C. Moore, Esq., Sec. Geol. Soc., was then read. The great mountain chain in the south of Scotland has always been remarkable for the scarcity of fossils, which have only lately been found in some portions of it. The beds composing it have a prevalent E.N.E. direction, and one set of valleys follow the same course, whilst another system intersects them nearly at right angles. The latter system seems of high antiquity, as the Bay of Loch Ryan—the most western of these depressions—is partly occupied by strata of clays, sandstone, and conglomerate, containing Stigmaria ficoides, and calamites. The Silurian rocks were stated to consist of coarse and thin-bedded greywacke and clay-slate, which is always without true slaty cleavage, with occasional intervening beds of feldspathic trap, which, in most cases, can be proved to be intrusive by its cutting across the sedimentary beds, and altering them equally on both sides. A section was described in detail along the Irish Sea from the Mull of Galloway to the Corswall-Light-house; and another further to the east from the Cairn to the River Stinchar, in Ayrshire. From the Mull, for about 16 miles to the north, the rocks are either vertical or dip to the north at a high angle; while from thence to the Corswall Lighthouse they dip, with trifling exceptions, to the south. Within four miles of the Mull, a mass of granite, about two miles square, occurs. In this section three beds are found, containing six species of graptolites and an euomphalus. The two more northern beds recur on the main land near the Cairn containing the same fossils. Near the Corswall Lighthouse the greywacke put on a conglomerate form, very remarkable for the size of the embedded materials, which are in some cases 4 ft. or 5 ft. in diameter, and consist of quarzifereus porphyry, syenite, serpentine, &c. The author then described a band of limestone, about four miles further north, which runs along the valley of the River Stinchar, and is seen in five distinct localities. The bed is about 30 ft. thick, and dips at a high angle to the south. It contains several fossils, which have been determined and described by Mr. Salter in the next communication.

"On the Fossils from the Limestone in the Stinchar River, and from the Slates of Loch Ryan," by J. W. Salter, Esq. These fossils are decidedly Lower Silurian, and though only two, an orthis and a trilobite, can be identified with those brought from Peebleshire by Mr. Nicol; yet the whole probably belong to the same set of strata. Some of the fossils have been previously found in Wexford and South Wales; but others seem new species.

"On Scratched Boulders," Part Second, by J. Smith, Esq., was read. The author ascribes the masks and furrows on rocks and erratic boulders to glacial action in the shape of glaciers, icebergs, or icy shores. In the beds of Arctic shells on the Clyde, he thinks there is proof both of a colder climate and of a sudden paroxysmal depression of the land in juxta-position. These beds, in which the shells are found in a perfect state of preservation as if they had been covered up when still living, are overlaid by beds of finely-laminated clay, in which no fossils have been observed, which he states has arisen from the sea bottom being suddenly depressed below that depth at which only animal life can exist.

"Observations on the Recent Formations in the Vicinity of Edinburgh," by J. Nicol, Esq., Ass. Sec. Geol. Soc., was then read. In some sections on the Edinburgh and Leith Railway the blue clay or till is seen to contain beds of stratified sand. Hence it is inferred that it has not been formed by any sudden convulsion; but, by the continuous action of the sea on the strata of the subjacent coal-field, at the time when the land was depressed below the ocean. The boulders contained in the clay may have been transported by ice or other causes, and dropped into the mud while it was still soft. In the Pentland Hills a vast number of boulders occur. Some of these, of mica slate, weigh 6 or 8 tons, and must have come from a distance of nearly 50 miles. The author ascribes their transport to floating ice, and accounts for boulders found on hills above the level of the parent rock by the irregular elevation of the land. This movement of the land probably resembled that now seen in Scandinavia, of which the northern part is rising, whilst the southern portion is sinking.

INSTITUTION OF CIVIL ENGINEERS.

PRESIDENT'S CONVERSAZIONE—MAY 30.

Mr. Field, the president of the institution, held his annual conversazione on Tuesday evening, May 30. The previous meetings of this kind have hitherto been held at the residences of the presidents, but the number of the members increased so much, that no ordinary house would receive them with the guests invited to meet them: in arranging, therefore, the recent alteration in the house of the institution, special provision was made for these meetings; and we must give our unqualified approbation of Mr. T. H. Wyatt's design for those arrangements, and of the manner in which they were applied; for when the extensive *suite* of apartments was lighted up and decorated with works of art and mechanical models, and the staircases and corridor lined with choice plants, the *coup d'œil* was charming: the refreshment rooms were extensive, and the cheer was on the most liberal scale—as might have been expected from the well-known kindness and hospitality of the president, who was well supported in the reception of his guests by the vice-presidents and council, and Mr. Manby, the secretary, upon whom devolved the duties of the selection of the models and works of art, and all the arrangements of the evening.—From so extensive a collection, our limits will only permit our noticing a few of the principal objects, and even those cursorily.

Upon the walls were the three fine portraits, by Lucas, of Mr. George Stephenson, Mr. Robert Stephenson, M.P., and Mr. Bidder; they were contributed by Messrs. Graves, for whom they are about to be engraved.

Messrs. Colnaghi's collection of the copies of the Correggio frescos, by Foschi, occupied very deservedly a prominent position; and the drawings by Nash, Lance, Scanlan, Taylor, and others, with portfolios of sketches by Oliver, Hildebrand, Digby, Wyatt, and others, excited general attention.

A trophy, carved in beech, by Taylor, Williams, and Jordan's mechanical process of carving, was seen to great advantage. The Electric Telegraph Company, Mr. Bain, Mr. Brett, and Mr. Reid, contributed instruments exhibiting their various systems of telegraphic communication, electric clocks, and electric printing.

Mr. Raud's fly-press, for raising, at one blow, the collapsible metallic tubes, or capsules, so generally used for containing the artists' colours, &c., was incessantly worked throughout the evening.

Mr. Whitworth's beautiful machine for knitting stockings was worked by a young girl, sent up from the factory of Messrs. Ransome and May, of Ipswich, and formed a most attractive object.

The models of greatest interest were those of Mr. Stephenson's wrought-iron tubular bridge of 400 ft., erected at Conway, with that of his wrought-iron tubular girders for large spans; Mr. Fowler's steam-boat floating landing-stage, with its long approach over the mud-banks, to be accomplished upon Mr. Mitchell's screw-piles, for the Humber ferry.

Mr. Brunel's excellent truss, of 110 ft. span, used by him in the Somerset Bridge, on the Bristol and Exeter Railway.

Mr. Fowler's plan for opening or shutting, simultaneously, four gates, for a level crossing on the line of the Manchester, Sheffield, and Lincolnshire Railway.

Messrs. Taylor, Williamson, and Gordon's model of their machine for carving by machinery ornamental objects, figures, or groups, such as we have previously noticed. This machine, by means of a tracer which guides the cutting tools, is enabled to perform the most delicate and elaborate work, with great speed and at a cheap rate.

Messrs. Seaward and Capel contributed such a large collection of models of paddle-wheels and screw-propellers, as almost to illustrate a history of marine propellers. Some of them, as well as their own methods of raising and lowering the screws at the stern of vessels, were contrived with great ingenuity, and the models were beautifully executed; indeed, so perfect a set of models is rarely seen.

Messrs. Maudslay and Field also contributed an interesting series of models of steam-engines, screw-propellers, and paddle-wheels; as did also Mr. Penn of his horizontal trunk steam-engine.

Mr. Clarke exhibited a beautiful model of the *Great Britain* steamer, full rigged, and containing fac-similes of the engines, with the screw-propeller complete, and working by means of condensed air; the whole only weighing one ounce: as a piece of ingenious workmanship this could scarcely be surpassed.

Mr. Cowper exhibited a very ingenious system of determining the resistance of screw-propellers.

Messrs. Clarke and Varley's atmospheric pile-driving machine, and rotating air-pump, were both very useful machines. Mr. S. P. Bidder's simple and effective coal-drops, Mr. Dodd's rail straightening machine, Mr. Southam's wedge and screw fid, Mr. Thornton's improved hydraulic lifting-jack, Mr. Witherell's iron twister, Mr. Beattie's new wooden railway, with the drawing of the system of manufacturing it, were all most interesting, as was also the model of a folding boat, of which each side was made of two thicknesses of waterproof cloth, rendered non-absorbent, and consequently rendering the boat incapable of sinking, even when full of water, and even when partially torn by accident. The expedition in search of Sir J. Franklin has been furnished with boats of this description, in order that they may be easily transported across the ice, and may bear injuries which would destroy a wooden boat. Life buoys, swimming belts, &c., were with the boat, as also a model, showing the system of transferring an ordinary wherry into a life-boat, by the use of the material, as in the case of the wherry recently built for his Royal Highness the Prince of Wales.

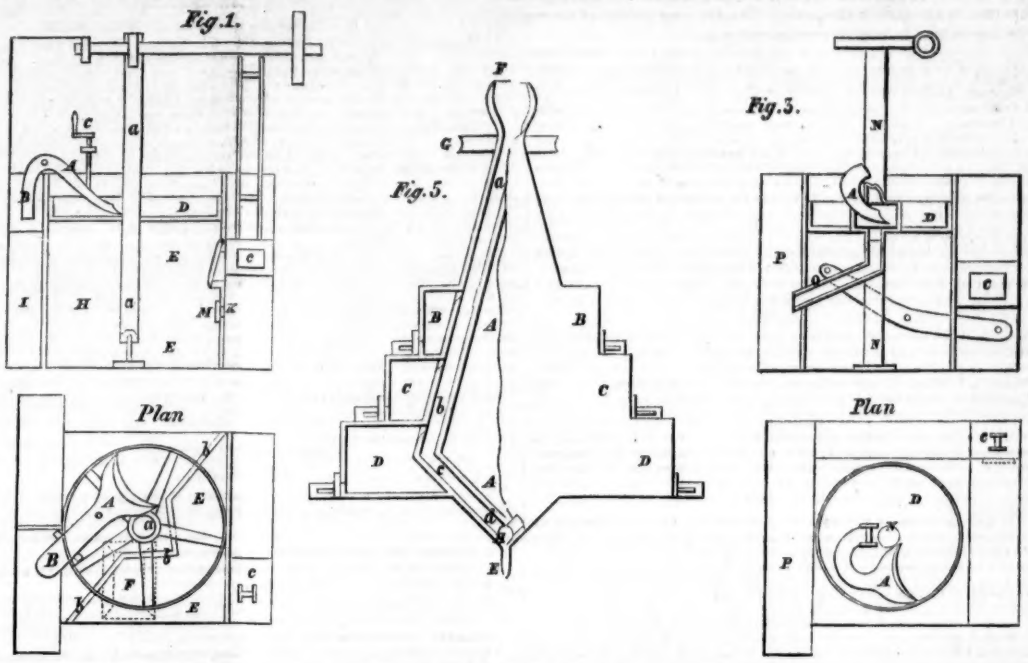
The Gutta Percha Company sent an excellent selection of their products, from the rough material, throughout all its stages of manufacture, to the finished articles.

Mr. Chubb's safety chest, and locks and keys, Mr. De la Fon's ingenious locks and bolts, Mr. Defries' improved dry gas-meter, the new amroid barometer, Mr. Shepherd's models of self-acting gates, with numerous other models and specimens, all interesting, and inviting longer examination, but which space will not allow us to notice, so completely occupied the attention of the members and visitors, that it was not until an early hour in the morning that all had departed, after partaking of the president's hospitable reception. The same reason prevents the enumeration of the names of the visitors: for among upwards of 1000 guests, it was too difficult a task to ascertain who was there. We can only say, that we have seldom seen more unanimity in the determination to be happy, and make others so; and we trust that, having so prosperously commenced the conversazioni, at the house of the institution, they may continue to be held there, and be of great benefit, not only to this institution, but others, in inducing them to follow so good an example.

SALE OF POLICIES OF ASSURANCE.—A policy of assurance for 1000*l.*, in the "Union" Life Office, on the life of a gentleman, aged 71, annual premium 38*l.* 19s. 2d., was sold at Garraway's, on Wednesday last, for 500*l.*; also one in the "Kent" Life Assurance Office for 700*l.*, annual payment, 20*l.* 8s. 6d.—380*l.*; and one in the "London" Life Assurance Office for 1000*l.*, annual premium 37*l.* 10s.—270*l.*

A NEW COAL MINE.—Near the Dardanelles, a rich seam of coal has been discovered, which, from its locality, must prove a mine of wealth to its owner.

IMPROVEMENTS IN DRESSING ORES.



[Specification of patent, dated 16th Nov., 1847, granted to William Brunton, jun., of Pool, Cornwall, civil engineer, for certain apparatus for dressing ores or minerals.]

The patentee, in describing his invention, commences by stating, that for dressing ores or minerals of such size as are usually "jigged," he constructs a tank, about 5 or 6 ft. square, and of a suitable depth for the deposition of the ore; within this tank he constructs an annular sieve of wire or perforated metal plate, the apertures in which are proportionate to the size of the ore to be dressed thereon: this sieve, which is formed with marginal sides of about 7 or 8 in. deep, is mounted upon a moveable axis, *a*, and receives motion from any suitable prime mover; and a portion of the tank, immediately beneath such sieve, has division plates, *b*, *b*, fixed therein—a pump, *c*, being fixed in a part of said tank, for the purpose of forcing water by intermitting impulses through that portion of the annular sieve immediately over the division plate before mentioned; the effect of which is to agitate, separate, and liberate the ore from the waste, and to cause the same to be deposited in separate receptacles, by the following means, and in the following manner:—A marks a skimmer, one end of which is made of a shovel form, and of nearly half the diameter of the sieve: and from thence, rising at an angle of about 20°, is a pipe which bends over the margin of the sieve, and terminates in a descending limb, B, which operates as a syphon—the same being supported by pivots, and provided with an adjusting screw, C, for the purpose of raising or lowering the said skimmer within the sieve, D. The operations of this arrangement are as follows:—The part, E, of the tank being filled with water, and the ore placed upon the bottom of the sieve, through a hopper, F, furnished with an adjustable shutter or valve, G, upon motion being imparted to the pump, the water will be impelled in an upward direction through that portion of the sieve immediately over the divided portion of the tank—the effect of which will be to agitate the ore, and thereby to separate the waste therefrom; and the ore being heavier will fall through the meshes of the sieve, and be deposited in the part, H, of the tank; and the lighter particles and waste, by the agitation of the water, will be kept in suspense until the rotation of the sieve, together with the interval of time between each impulsion, will allow the agitation to subside, when the particles will be precipitated; but, in order to prevent them from passing through the sieve, the patentee employs the skimmer pipe, A, before mentioned, the flattened end of which he adjusts to within as short a distance of the bottom of the sieve as experience may suggest—thus, as the sieve rotates, the particles as they precipitate will be arrested by the mouth of the skimmer, and be carried off by the pipe, A, into the receptacle, I, where they will be deposited, and the water, separating therefrom, passes to the pump, to be again operated upon as before.

The patentee states that, when the nature of the ore is such as to require the water to descend after each upward impulsion, the same may be effected by having an opening, K, below the piston, furnished with a shutter, or valve, M, for regulating it. Or the like result may be obtained by fixing the sieve, D, immoveably within the tank, as exhibited at *fig.* 3, and by connecting the skimmer to the axis, N, which is hollow, cause the same to revolve—the waste and lighter particles being carried off by the skimmer through the hollow axis, N, and jointed pipe, O, connected thereto, into a receptacle, P, the ore passing through the sieve into the tank. The patentee states that, when the sieve becomes so much charged with ore as to risk its being carried off with the waste, he stops the feeding, and lowers the mouth of the skimmer, so as to remove the ore to a separate receptacle, a shoot being placed upon the pipe for that purpose. By this last arrangement of the apparatus, it will be seen that the impulsive force of the water will be exerted over the whole surface of the sieve, instead of a portion only thereof, as in the former arrangement—the force of each impulsion being sufficient to agitate the metallic particles, so as to liberate the waste therefrom; the interval of time between each impulsion being sufficient to allow the agitation to subside, and the particles to assort themselves in the compound ratio of their specific gravity and bulk. The patentee further states, that the area of the pump should not be less than one-third that of the sieve, and that the ore should be subjected to 60 or 100 impulsions before skimming the water.

In dressing small ores, or slimes of ore, the patentee subjects them to an artificial state of gravitation—they being first sufficiently liquified with water, to separate the metallic particles from the waste by agitating the water; and this he effects by the apparatus exhibited at *fig.* 5, which is constructed and actuated in manner following:—A A marks a hollow trunk, having passages, *a*, *b*, *c*, *d*, formed therein, which communicate by openings, * * *, with receptacles, B C D, formed at opposite sides of the said trunk. E marks a pivot situate at the bottom of the trunk, and F a funnel-shaped pivot at the top thereof, by which the apparatus is retained in a vertical position, and is susceptible of receiving rotary motion from a strap, or band, passing over a rigger, at G, actuated by any suitable prime mover, and moves at a suitable velocity.

The operations of this apparatus are as follows:—The trunk, A, is first filled with water, and the cock, H, opened, to a certain extent, for the discharge thereof; the operator then proceeds to feed the trunk, by the funnel, F, with liquified ore; at the same time, rotatory motion is imparted to the trunk, whereby the water, and metallic and other particles, contained therein, become agitated, and, assorting themselves in the compound ratio of their specific gravities and bulk, become precipitated and deposited in the following manner—the heavier portions, when brought into contact with the opening, *, leading from the trunk to the receptacle, A, will be deposited therein by reason of the centrifugal force, occasioned by the rotation of the trunk; the lighter and smaller particles, in like manner, being deposited in B, and the earthy particles in C; the water passing off through the discharge cock, H, which must be adjusted in accordance with the velocity of the trunk. When the receptacles are filled, or nearly so, the feeding is stopped, and their contents removed by the openings at * *, which are furnished with shutters; the ores are then removed, assorted, and placed in bins, or other places of deposit.

The patentee claims, with respect to the first apparatus, the discharge of the ore and waste into a separate receptacle, over the margin of the sieve, by means of a skimmer-pipe and stream of water; and the uniform feeding of the apparatus, whereby the process is continuous; and further, the feeding pump, whereby the upward impulsion only, at intervals of time, effects the separation, liberation, and assorting, of the metallic and other particles from each other, in the compound ratio of their specific gravities and bulk; and further, the means of regulating the quantity of discharge water. And, as regards the second apparatus described, he claims the application of centrifugal force, as an artificial state of gravitation, whereby it is made subservient to separate ores and other minerals.

Patent-office and Designs Registry, 210, Strand, May 30.

IMPROVEMENTS IN THE ELECTRO-GALVANIC TELEGRAPH.—Mr. Reid, of University-street, has secured a patent for several alterations in the mode of arranging the apparatus for electro-telegraphic purposes, the principal of which is for improved modes of isolation. Instead of employing, as usual, wires covered with zinc, or cotton, and supported on poles a considerable height above the ground, the patentee lays them in a plain, or uncovered, state, in well protected channels made for them underground, or flush with the surface of the ground, and then insulates them by means of earthenware supports, or carriers, and covers them in with marine glue, gutta percha, asphalte, Stockholm tar, or resinous composition. Another part of these improvements relates to the insulators, when, from local peculiarities, it is still necessary to use posts: in these cases he employs several peculiar forms of earthenware tubes, which are passed through holes in the posts, and fastened in such manner that the wires are safely guarded from the wet, or from coming in contact with the posts. Mr. Reid claims the mode of laying, insulating, supporting, and protecting the telegraphic wire.—2. Earthenware insulators, of 11 different forms, described by diagrams.—3. The employment of gutta percha as a material for the supports of carriers of telegraphic wires.—4. The peculiar mode of establishing, disconnecting, and re-establishing electro-telegraphic communication in railway trains.—5. Employing the ordinary galvanometer, for the purpose of sounding bells, or other alarums, in electro-telegraphic communication, and—6. For making the galvanometer in two separate parts, and constructing the coils also in two portions for telegraphic purposes.

THE TELEGRAPH IN AMERICA.—We learn, by the *Miners' Journal*, that House's telegraph is now in operation between Philadelphia and New York, and it appears to give the most perfect satisfaction: four hundred letters per minute are printed, all distinct and legible, and the messages and answers given simultaneously at each end. The machinery and arrangements throughout are said to be of the most complete character. The wires of this telegraph have been extended across North River, at New York—the only line which has thus far succeeded in the attempt."

NEW VOLTAIC BATTERY.—A description of a new voltaic battery was read at the Paris Academy for the encouragement of arts and manufactures, by M. Delaunier, which is stated to be exceedingly simple, much more constant in its supply than Bunsen's, or any other, and affording as much of the galvanic fluid, without generating acid vapours. It consists of a solid cylinder of zinc, placed in a porous vessel, almost full of pure water; this latter vessel is placed in another, containing one part of sulphuric acid to 5 or 6 to 10 of water, according to the amount of the electric fluid required. He had also adopted a modification of this new battery, which produced considerably more electricity, and prevents the generation of any of the gases. It is to employ any salt which can be partially reduced by hydrogen, and which restores to the atmosphere the oxygen it has lost. The nitrate of potash produces these results, which, as it does not disengage any of the compounds of oxygen and nitrogen, he concludes that the nitrate which it forms absorbs from the air the oxygen it had lost, and that it is combined with the hydrogen. He had not tried nitrate of soda; but, as containing a larger portion of oxygen, he considers it might be found to answer, even better than the former. He states, that this battery is at once the most simple, economical, constant, and powerful of any yet constructed; there is no loss in it from electrical non-conductility, as in the Bunsen battery, where the charcoal is often a bad conductor, and where the deposit of oxide of zinc is often a great obstacle to free conductility. A Bunsen battery, of 60 elements, has been known not to give off more electricity than should be due to one element, and sometimes quite suddenly it would start off, and work with such rapidity, without being touched, that it would produce in half-an-hour a larger precipitation of the metals, than at other times is produced in 24 hours. The difference between the two batteries is—copper, silver, platinum, or platinised copper, instead of charcoal; sulphuric acid, instead of nitric acid; and within the porous vessels, zinc and pure water being used, or water containing a portion of nitrate of potash in solution.

CHEAP ELECTRICAL MACHINES.—I have tried of late to obtain, if possible, a cheap substitute for glass in making plate electrical machines, and found the following to answer well:—First, I substitute mill-board, or pasteboard, cut into a circular form, and smoothed at the edges, upon which I lay successive layers of solution of shellac, until I have obtained it of sufficient thickness. The one layer should be perfectly dry before another is applied. I dissolve the shellac in wood naptha, or pyroligneous acid, without heat, and then apply it to the board with a kind of varnish brush—by this means a perfectly smooth surface can be obtained. Shellac being the best nonconducter of electricity, it is essentially the best substance for producing it. The shocks from it are short, but follow in quick succession, and give pain to the knuckles when held to them—much more so than the shock from the glass machine. Or, secondly, I substitute for glass, mill-board, coated with a solution of sealing wax, formed by dissolving the wax in pyroligneous acid, without heat, and then proceed precisely the same as in the preceding case. The shellac, is, however, superior to the sealing-wax. By either of the above means an electrical machine might be made at a mere trifle, compared with the expense of one of glass, and I should prefer it for strength. The best form of construction is that of Mr. Woodward—viz.: having two plates on the same axle—and the expense would be very little more, compared with the increase in power.—J. B.: *Manchester, May 21.*—*Mechanics' Magazine.*

USEFUL AND INTERESTING INVENTION.—The most improved clocks now in use only indicate (in point of time) the hour, the minute, the second, and the day of the month; which last indication requires to be attended to and altered at the end of every month of less than 31 days. An invention has just been made which will go much further, and indicate the day of the week, the month, the day of the month, and the year, thus—Monday, May 22, 1848; and at 12 o'clock at night the clock will alter the indications all at once, and exhibit Tuesday, May 23, 1848, and so on, day by day, for hundreds of years. All the attention required is to keep the clock in motion, by winding it up regularly as usual. Whether the month has 30 or 31 days, or as in February 28, and in leap year 29 days, the indications will be found to be always correct. This newly-invented piece of machinery is at present contained in a small box, which may be attached to any ordinary clock; or it may be constructed so as to be placed behind the face or dial of a clock, and make the above indications through an aperture in the face, or dial, as above described; thereby bringing that useful piece of machinery, the clock, almost to perfection. The invention is that of an individual in an humble walk of life. We have seen it, and can bear testimony to the accuracy with which all the operations and changes are effected.—*Leeds Mer.*

The Metallurgical Treatment of Ores.

[*Continued from May* 13.]—No. XIX.

Those who would view this subject scientifically, should here consider that, as platinum cannot be fused by the utmost heat of our furnaces, and, consequently, cannot be freed like other metals from its impurities during igneous fusion by fluxes, nor be rendered homogeneous by liquefaction, the mechanical diffusion through water should here be made to answer, as far as may be, the purposes of melting, in allowing earthy matters to come to the surface by their superior lightness, and in making the solvent powers of water effect as far as possible the purifying powers of borax and other fluxes in removing soluble oxides. By repeated washing, shaking, and decanting, the finer parts of the grey powder of platinum may be obtained as pure as other metals are rendered by the various processes of ordinary metallurgy; and, if now poured over and allowed to subside in a clean basin, a uniform mud, or pulp, will be obtained, ready for the further process of casting. The mould which I have used for casting is a brass barrel, 6⅔ in. long, turned rather taper within, with a view to facilitate the extraction of the ingot to be formed—being 1·12 in. diameter at the top, and 1·23 in. at a quarter of an inch from the bottom, and plugged at its larger extremity with a stopper of steel, that enters the barrel to the depth of a quarter of an inch. The inside of the mould being now well greased with a little lard, and the stopper being fitted tight into the barrel by surrounding it with blotting paper (for the paper facilitates the extraction of the stopper, and allows the escape of water during compression), the barrel is to be set upright in a jug of water, and is itself to be filled with that fluid. It is next to be filled quite full with the mud of platinum, which, subsiding to the bottom of the water, is sure to fill the barrel without cavities, and with uniformity—a uniformity to be rendered perfect by subsequent pressure. In order, however, to guard effectually against cavities, the barrel may be weighed after filling it; and, the actual weight of its contents being thus ascertained, may be compared with that weight of platinum and water, which it is known, by estimate, the barrel ought to contain.* A circular piece of soft paper first, and then of woollen cloth, being laid on the surface, allow the water to pass during partial compression by the force of the hand with a wooden plug. A circular plate of copper is then placed upon the top—and thus sufficient consistency is given to the contents to allow of the barrel being laid horizontally in a forcible press. After compression, which is carried to the utmost limit possible, the stopper at the extremity being taken out, the cake of platinum will be easily removed, owing to the conical form of the barrel; and, being now so hard and firm that it may be handled without danger of breaking, it is to be placed upon a charcoal fire, and there heated to redness, in order to drive off moisture, burn off grease, and to give it a firmer degree of cohesion.

The cake is next to be heated in a wind furnace; and, for this purpose, it is to be raised upon an earthen stand, about 2½ inches above the grate of the furnace; the stand being strewn over with a layer of clean quartzose sand, on which the cake is to be placed standing upright on one of its ends. It is then to be covered with an inverted cylindrical pot of the most refractory crucible-ware, resting at its open end on the layer of sand, and care is to be taken that the sides of the pot do not touch the cake.

To prevent the blistering of the platinum by heat, which is the usual defect of this metal in its manufactured state, it is essential to expose the cake to the most intense heat that a wind furnace can be made to receive—more intense than the platinum can well be required to bear under any subsequent treatment—so that all impurities may be totally driven off, which any lower temperature might otherwise render volatile. The furnace is to be fed with Staffordshire coke—the action of the fire is to be continued for about 20 minutes from the time of lighting it; a breathing heat being maintained during the last four or five minutes. The cake is now to be removed from the furnace, and, being gplaced upright on an anvil, is to be struck, while hot, on the top with a heavy hammer, so as at one heating to effectually close the metal. If, in this process of forging, the cylinder should become bent, it should on no account be hammered on the side, by which treatment it would be cracked immediately; but must be straightened by blows upon the extremities, dexterously directed, so as to reduce to a straight line the parts which project.

The work of the operator is now so far complete that the ingot of platinum may be reduced by the processes of heating and forging, like that of any other metal, to any form that may be required. After forging, the ingot is to be cleaned from the ferruginous scales which its surface is apt to contract in the fire, by smearing over its surface with a moistened mixture of equal parts by measure, of crystallised borax and common salt of tartar—which, when in fusion, is a ready solvent of such impurities; and then exposing it on a platinum tray, under an inverted pot, to the heat of a wind furnace. The ingot, on being taken out of the furnace, is immediately to be plunged into dilute sulphuric acid, which, in the course of a few hours, will entirely dissolve the flux adhering to the surface. The ingot may then be flattened into leaf drawn into wire, or submitted to any of the processes of which the ductile metals are capable.

Treatment of the Ores of Tin.—Owing to the peculiar nature of the ores of tin, this metal presents but few difficulties in its working. The only ore found in sufficient quantity for commercial purposes is the peroxide; and if it be pure, it has only to be mixed with charcoal, and heated in a reverberatory furnace to furnish pure metal. Sometimes, however, many other cases may be met with, in which the operation is not so simple, the tin having to be freed from foreign metallic substances. The great facility with which tin can be reduced from its ores—more especially when they are pure—fully accounts for the very early introduction of this metal into the arts; it was in fact known and employed in the time of Moses. The principal mines in Europe are those of Cornwall, which place has been, from almost the earliest times, celebrated for the production of the ores of the metal forming the subject of the present paper; indeed, they formed a most important branch of commerce with the Phœnicians. Oxide of tin is nearly always found crystalline, or in a crystalline state, generally in the granites, porphyries, and schistes—sometimes in veins, sometimes in masses. For instance, in Saxony it occurs sometimes in veins in granite (Altenberg), sometimes disseminated in layers of gneiss (Heftelberg), in quartz (Zinnwald), sometimes in threads, which latter are very numerous in the primitive and transition rock of the Erzgebirge, where no less than five different formations may be recognised, the most recent of which is characterised by the presence of copper and silver. In all these threads, oxide of tin is found with either quartz, talc, felspar, schorl, or mica; and, lastly, in the neighbouring valleys the soil is frequently covered with fragments of granite, or schorl schist, sufficiently rich in tin to be very profitably worked. That variety of oxide of tin, known as "stream tin," is the most valuable. In Cornwall, this kind of tin has been worked from the earliest ages. The stream tin works of St. Austell are the largest and most productive. The East Indies furnish a large quantity of tin—that coming from Banca and Malacca is the finest, and is preferred in dyeing, on account of its purity. Saxony and Bohemia also furnish tin. This metal is also worked, but only as stream tin, in South America, in the provinces of Guanaxuato, and Guadalaraxa.

The rough tin ore is always accompanied by the rocks which form its gangue. These rocks, composed of silica, alumina, lime, and potash, give rise, during fusion, to a glassy slag, possessing the property of dissolving the greater part of the oxide of tin, and preventing its reduction to the metallic state. In order to prevent this, the most of the stony matter must be removed by stamping and washing. Thus prepared, the ore is in very nearly the same state as stream tin—that is to say, it is nearly as pure.

The process, however, is not always so simple; the ore is often mixed with copper pyrites, and in this case both copper and tin is obtained. The ore is broken by hand on iron plate, and the nearly pure rocky matter is picked out, and thrown on one side; the ore of tin and the pyrites are also separated in the same manner as perfectly as possible. It is scarcely necessary to state, that this mode of picking leaves some copper with the tin ore, and *vice versâ*. It is also requisite to prevent the bad effects, which would be produced by the nearly constant presence of tungstate of iron and manganese (wolfram), as well as arsenical iron, and various compounds of iron, capable of yielding metal under the influence of heat and carbonaceous matter. The following is the routine of the mechanical preparation of tin ores:—The ore, as extracted from the mine, is, if possible, broken into fragments, about the size of the fist; but when the gangue is too hard to yield to the hammer, it is formed into a heap, and roasted for about 48 hours. A thick smoke and arsenical odour are present during the whole of the latter part of the roasting. By this treatment the ore becomes very brittle, and can be readily reduced to pulverulent state; it is then washed, by which all the lighter parts, as quartzose and argillaceous gangues, are removed; whilst oxide of tin, sulphuret of iron, arsenical iron, oxide of iron, and wolfram, collect together. A fresh roasting is then necessary, by which arsenic and sulphur are transformed into arsenious and sulphurous acids, and the iron into peroxide—the wolfram and oxide of tin alone resist alteration.

This operation, according to M. Manès, is carried on at Altenberg in the following manner:—The establishment consists of two buildings—the one containing a reverberatory furnace, and a stock place for wood—the other a condensing chamber, to receive and collect arsenical fumes. The reverberatory furnace is a quadrangular, pyramidal building, formed of porphyry. The sole hearth of the furnace is made of bricks, and is separated from the fire hearth by a small bridge, 6 in. in height. At the anterior part of the sole hearth there is a kind of hood, for the purpose of ventilating the space occupied by the workmen; at which part, also, is formed the work-hole, for stirring the contents of the furnace, and the chimney communicating with a brick canal, conducting the vaporous matter evolved from the furnace to the condensing chamber. On the upper part of the furnace there is a walled space, like a large tray, in which the washed ore is placed to dry, previous to its introduction to the furnace. When the furnace is just warm the ore is introduced, spread over the sole hearth, and kept continually in motion, so as to completely dry it; this happens in about half an hour. The fire is then gradually increased for about three-quarters of an hour, at the end of which time arsenical vapours are evolved. The ore in the furnace is continually moved from the bridge to the other end, and so backwards and forwards, so as to be equally heated throughout. In the course of about an hour and a half the whole of the arsenic is removed, and a small quantity of sulphur begins to sublime. By this, the contents of the furnace are at a bright red heat, and a little carbonaceous matter is added; more arsenic is given off, but much less than at first; and after about a hour, when the heat is greatly increased, the evolution of vapour entirely ceases. The furnace is allowed to cool till the next day, when the roasted ore is removed, and a new charge commenced. The iron in the ore becomes peroxidised; and being thus rendered much lighter than the oxide of tin, can be readily removed by washing: the oxide of tin, wolfram, and part of the gangue, remain. In England, the roasting of tin ores, containing pyrites, and other matters, is carried on in much the same way, and the same results produced as already described. The ore, however, is purified by the wet method, as described and patented by Messrs. Polkinghorne. This plan has already been described in the *Mining Journal*.

Reduction of Tin Ores.—Tin ores are treated two different ways, according to their nature. Some are treated in the slag hearth, others in the reverberatory furnace. The following is the mode of treatment in the slag hearth in use in Saxony:—The ore is always reduced by means of charcoal: the size of the furnace greatly varies. It has been proved, by experiments on the large scale, that the highest furnaces furnish the greatest quantity of tin in the shortest time; the amount of fuel consumed, however, is rather larger. Such is, at least, the result obtained by M. Manès; other authors differ from him, and state, on the contrary, that the higher furnaces give more economical results. However this may be in the best regulated works, the furnaces are always built as high as possible. The ore has, by washing, been divided into two principal products—the one a large greens, known as "large slime, or schlich"—the other as "fine slime, or schlich." These two products are mixed for the fusion in certain determinate proportions, determined by their respective richness. Sometimes, however, the schlich is divided into three qualities—large, middling, and fine slime, which are also mixed in certain proportions for the fusion. The purpose of these operations is to render the whole of the fusions as nearly as possible equal in richness, either as regards the produce, or as regards the mean richness of the ore. By this means the operation is rendered more certain; the nature of the slag also, and its relative quality, as regards the metal produced, becomes more constant, and there is less fear of an excess of silica; and, lastly, by these mixtures, the slags produced possess a mean fusibility, which varies little or nothing in many reductions. All these precautions are necessary in this mode of treatment, which differs considerably from that employed in England, in which cave reverberatory furnaces are employed. In the process about to be described two furnaces are employed; the largest, which is 14 ft. in height, is built of syenitic porphyry. The upper part of the interior of the furnace is of refractory brick; the lower part is the reception vessel, for the reduced tin. It has an oval form, and is lined with a mixture of charcoal and clay. In its inferior part is the tap-hole, opening in the stone, forming the front of the furnace, and under this is the outer vessel, in which the tin is received. Above this is an opening, for the purpose of removing the slag formed during the fusion. The blast is furnished by two leathern bellows; the smaller furnace, for reducing the slag, is 5 ft. high, and is very similar in its build to the larger reducing furnace, excepting in its proportions. The following is the method of commencing an operation:—The lower part of the furnace is lined with a mixture of four parts of charcoal, and one of clay; and it is thus dried: in the receptacle for the tin is placed some lighted, and then some dead, charcoal, in quantity sufficient to burn about two hours; and this is repeated every day for four or five days, at the expiration of which time the furnace is half filled, and the fusion commenced; in this equal parts of large and middling slime are mixed with a fourth of fine slime. The charcoal is reduced to a suitable size, and plunged in a vessel of water, from whence it is drawn as wanted by an iron rake. The smaller portions of charcoal, produced in breaking the larger, are placed on one side, for the purpose of renewing the lining of the bottom basin when required. The slag of a previous operation is now placed in the furnace, and the blast commenced; when the lower part of the furnace is full of slag, ore is added, and the blast increased. Four hours after tin commences to run into the basin at the lower part of the furnace; the slags first produced under the influence of too low a temperature are removed, and again placed in the furnace, at the upper part, as soon as practicable.

The furnace having by this time commenced to work uniformly, is charged regularly on either side, at a small distance from the front of the tuyere; the charger always examining the state of the tuyere before charging; and, according as the nose is too long or too short, and according as the heat is greater or less, on one side or the other, he increases or diminishes the charges on the side of the tuyere, or charges more or less strongly on the side which is more or less heated. Every time a charge is added, the founder removes the slags which cover the metal in the basin, and throws them into a vessel of water, then covers up the anterior part of the bath of melted metal with fragments of charcoal. After 20, or 24 hours, from the commencement of the addition of the ore, or when about 10 cwts. have been added, the receptacle at the bottom of the furnace is generally full and ready for tapping. The vessel into which the tin has to be run, as well as that in which it is to be refined, are to be heated with lighted charcoal. The founder then stops the blast, and runs the metal. The slags collected are then worked in the smaller furnace.

* From the mean weight of the ingots obtained in previous operations, it is known that the barrel, described in the text, ought to contain 16 ozs. troy of dry platinum powder=

$$16 \text{ ounces} \times \frac{\text{spec. gr. of platinum} - 1}{\text{spec. gr. of platinum}} + \text{the weight of a cubic inch of water} \times \text{the capacity of the barrel in cubic inches} = 16 \text{ ozs.} \times \frac{20{\cdot}25}{21{\cdot}23} + {\cdot}326 \text{ ozs.} \times 7{\cdot}05 = 18{\cdot}3575 \text{ ozs. troy.}$$

Should the contents of the barrel weigh materially less than this estimated weight, there must be a want of uniformity in the disposition of the powder within this barrel.

ACCIDENTS.

Goginan Mines, Aberystwith.—An accident, which is likely to be attended with loss of life, occurred at the Goginan Mines, about seven miles from this place, on the 30th May. Two miners had been preparing a blast, which, by some unforeseen occurrence, exploded before they escaped—their lives are in danger. We cannot ascertain whether they were using the safety fuse, but we fear that precaution was not taken.

Hales Owen, Staffordshire.—W. Callaghan was killed by a fall of coal at Messrs. Whitehouse and Peacock's Colliery, Newbury-lane.

Brierley Hill.—A boy, named Loy, met with a severe accident at Messrs. Wheeley's iron-works—his hand being caught among the machinery, and much crushed.

Darlaston.—T. Smith was killed by a fall of coal at Mr. Philip Williams's colliery.

The Late Fatal Explosion at the Heath Colliery, West Bromwich.—Another man, who suffered in the late dreadful catastrophe at the Heath Colliery, of the name of John Tilson, has died from the effects of the injuries he sustained—making the 12th victim.

Greet's Green, West Bromwich.—John Jones was killed while at work in the Shoe Coal Pit, belonging to the trustees of the late Mr. Horton, by a quantity of coal falling upon him.

Dreadful Accident to a Boy.—An accident of a most distressing nature occurred to a boy only 12 years of age, named E. Williams, while employed in Messrs. Addenbrooke's coal and ironstone pit, Darlaston. It appears that his duty was to hook and unhook the skips at the bottom of the shaft of the pit; and as he did not answer the call of another person working farther up the shaft, attention was directed to the cause, and he was found lying dead at the bottom of the pit. His skull was fractured, and, as a piece of stone was lying not far from him, it is supposed that this had caused his death, from its having fallen out of a descending skip.—*Birmingham Journal.*

Cwm Amnon, near Aberdare.—A Cornishman, named Paul Quirk, was killed at a new colliery pit, recently opened by Messrs. Sheppard and Co., in the following manner:—He was standing at the edge of the pit, awaiting the ascent of a bucket filled with mine; but, before it had reached the surface, the rope suddenly snapped in two, and the end of the upper part was thrown by the violence with which it was broken, to the top of the pit, where it struck poor Quirk such a violent blow, that he fell into the shaft, and was killed, perhaps, even before reaching the bottom, which was at a depth of about 60 yards. The remains of the unfortunate miner were gathered up, shockingly mutilated, and brought, in a temporary shell, to the Aberdare Railway Station, from whence they were removed to Merthyr. Quirk was an industrious workman, and had not been long engaged at the colliery.—*Monmouthshire Merlin.*

Mabe, near Falmouth.—As J. Lawry, a quarryman, was preparing to blast a rock, a sudden explosion took place, and awfully mutilated him—he lived only five minutes. His son and a young man were injured, but not seriously.

Alfred Consols.—J. Trevean fell away from the ladder down the shaft, and was killed.

Ansell's Colliery, Walsall.—Ann Wood, aged 13, was riding on part of the machinery, when she was thrown off and killed on the spot.

Old Park Colliery, Brierley Hill.—As W. Insull, a carpenter, 70 years of age, was repairing the pitwork, and was in the act of descending the pit frame, he slipped, and striking the back of his head on the sill, expired on the spot.

Willenhall Road, Bilston.—J. Holland was, unfortunately, killed by a fall of coal in a pit near Stoke's engine.

T. Arnold, a collier, aged 24, lost his life by an explosion of fire-damp, while working in one of the pits at Lockoford: he was dreadfully burnt, and survived only 48 hours after the occurrence. Four other men, who were working with him, were also much burnt, but we are glad to hear they are now in a fair way of recovery.—*Derby Reporter.*

Accident on the South Devon Atmospheric Railway.—One of the men employed in filling the apertures in the tube near the Newton Station, it is supposed, fell asleep on the rail on Saturday night last, and the 11 P.M. train passed over his leg, and severed it in an instant. He was sent per next train to Exeter Hospital, with but little hopes of his recovery, from great loss of blood.

Shocking Accident to a Railway Sub-Contractor.—On the afternoon of Monday last, about 4 o'clock, an accident, which unfortunately was attended by most painful circumstances, occurred at the top of Beacon Hill, near this town. A tunnel (as most of the readers are aware) is in course of formation under the hill, and five shafts are sunk at certain distances along the course of the line. At the mouth of the main shaft, which is at the summit of the hill, a steam-engine has been for some time at work, and the engine chimney forms a conspicuous object on the brow of the hill from every part of the town. On Monday afternoon, Mr. Wood, sub-contractor, was standing talking to the engineer, close by the engine, when the large fly-wheel suddenly broke in pieces. One of the spokes of the wheel, in weight about 2 cwts., struck Mr. Wood on the left knee, literally amputating the leg, and leaving only a very small portion of skin. Another part of the wheel was sent through the top of the engine-house into the air to an amazing elevation, and descended upon the ground at a distance of about 50 yards from the spot where the engine is erected, and buried itself in the earth. The engineer was not even touched by the flying materials. Every assistance was immediately rendered the unfortunate gentleman, and hundreds of "navvies" and others were promptly upon the spot. Mr. Harrison, surgeon, was immediately sent for, and fortunately was coming in the direction of the works. A shutter being provided, Mr. Wood was conveyed to his residence near Shaw Lodge Mills, where the leg was further amputated a little above the knee. Mr. Wood passed only an indifferent night, and at one time fears were entertained of his ultimate recovery—the loss of blood, and the shock to the system, by so dreadful an accident, being very great. He is, however, progressing favourably. At the time of the accident a boy was ascending the shaft in a basket, but the breaking of the fly-wheel at once caused the rope to descend, and the poor lad was precipitated to a depth of 30 yards, but from the rope having to uncoil itself, and there being no very great weight in the basket, he did not descend at any great velocity; upon alighting at the bottom, he received a severe blow upon the head from some part of the tackling, and was knocked senseless. Upon reaching *terra firma*, and finding his head bleeding, he set off at the top of his speed, and running direct to the surgery of Mr. Harrison, on North Parade, in the utmost fright, anxiously inquired if he was killed? The lad's head was examined, and found to have sustained a slight bruise. No cause can be assigned for the sudden breaking of the fly-wheel.—*Halifax Guardian.*

Fall of a Railway Bridge.—At about half-past three o'clock, on Monday afternoon last, a three-arched bridge on the Buckinghamshire Railway, across Bath-lane, Buckingham, fell with a tremendous crash to a complete ruin. The abutments only remain, the rest became a heap of ruins. A rumbling noise was at some distance heard like thunder, which was immediately followed by a dense cloud of dust; and, on this clearing off, the wreck of that which had been considered a specimen of good workmanship displayed itself. Fortunately, no bodily injury was sustained. This was providential, as the workmen had been passing and repassing with loaded tip-waggons during the previous part of the day. When the workmen returned from dinner it was observed that the bridge had sunk about a foot over one of the piers, and the precaution was taken to place a man to watch and prevent persons from passing under it. The cause was the sinking of the foundation of one of the piers.

Burning of a Railway Bridge.—At half-past 6 o'clock, on Wednesday morning, one of the most terrible conflagrations took place that ever occurred in Newport. The magnificent new South Wales Railway bridge, which crosses the River Usk, built of wood, and about 400 yards long, was completely destroyed by fire, even to the water's edge. At 6 o'clock the workmen engaged in completing the central arch, which was an immense pile, consisting of several tons weight of timber and iron bolts, were busy at work driving in the bolts, when one man used a bolt which had been heated to an extraordinary degree. This immediately ignited the adjoining timber, which, being highly kyanised, or pickled, was like gunpowder to ignite. The man had a bucket of water at hand, as was always usual, but it was useless; for in less time than we have written the last five lines, the flames leaped along on each side from the centre to each end of the bridge, and the whole extent was in a terrible blaze in a moment. The men with difficulty escaped with their lives. A team of trains passing at the time, with the horses put to their utmost gallop, were obliged to dash through the flames to escape. The screams of those who saw the first terrible conflagration were awful. The whole town rushed to the great stone bridge adjacent, and hundreds of navvies, carpenters, masons, labourers, tradesmen, and gentlemen, were quickly on the spot; but it was of no avail. The town fire-engines were brought, but they were syringes contrasted with the awful flames bursting from the surface of the piles, the rails, the arches, and, in fact, wherever the fire could lay hold of wood to burn. The timber-work was so enormous that it took a considerable time to burn any portion wholly away; while the patent composition used to preserve the wood lent assistance to the flames, which rose up with blue and black smoke, filling all the heavens. At about 9 o'clock the ponderous work of the central arch, having lost its abutments in the fire, gave way with a terrible crash, and soon after this had fallen in, portion after portion gave way, until, with the exception of here and there a solitary black and charred fragment, with some portion on the banks, the whole of this magnificent work was totally destroyed. The river was black with burning wood which fell into it; and, the tide being receding, the banks became strewn with enormous pieces of half-burnt wood, like the coast after a wreck. The engine from the barracks did great execution, worked by two companies of soldiers under the command of officers, and the town engines did all they could, but it was a physical impossibility to save even a fragment: we might as well suppose a portion of a barrel of gunpowder could be found after the ignition of the barrel. The bridge was almost completed when this unfortunate calamity occurred. It had been built of kyanised timber by the eminent firm of contractors, Messrs. Rennie, Logan, and Co., and cost upwards of 20,000*l.* in the erection. Fortunately, the firm insured recently for the full amount, so that their loss will be covered. I understand that they insured at a very high premium, owing to the enormous risk incurred. The bridge will now be built of stone, it is supposed. The work is delayed two years in consequence.—*Sun.*

Mining Correspondence.

ENGLISH MINES.

ANTIMONY AND SILVER-LEAD.—Capt. Charles Williams (May 29) reports—I herewith send you a box containing ore from each of our lead lodes; the one cut this week, in the Marlborough adit, of which I give you notice, is a splendid lode, about 1 ft. 6 in. big, carrying two fine walls, with an underlay of 1½ ft. in a fathom; I have had some of it assayed, and found it to be far richer for silver than any ore risen from the mines in the neighbourhood; our adit is going on rapidly—having driven 9 fms. this month, and no timber required. I have set the end today for 35s. We have passed through the lode, and risen therefrom from 10 to 15 cwts. of ore, and shall put two men to drive upon it next week. Not being aware of any such lode, when the survey was made, it is not shown in the map; we expect, therefore, to cut No. 1 lode in the course of next month (June); and, as we shall cut that considerably deeper, it will, in some measure, prove the lode which we have always anticipated to be a good one. We have suspended raising antimony to bring up our level, as we could not sink for water without machinery. Our other lead lode, on the opposite side of the valley, is not so regular as the one above referred to, but very strong, containing good stones of lead, gossan, copper, and antimony. You will find, by the sample sent, it is very similar, and I believe contains equally as much silver as the other; and I think, when we get in settled ground, it will show itself more regular. We have this week been visited by Capts. Rotwell and Spargo, who express themselves highly pleased with our operations, and state it to be their opinion of its being a first-rate speculation; and that the lodes in sight are well worthy of an engine—in fact, they both stated that they never saw anything so good in their lives for the depth.

BARRISTOWN.—Capt. Thomas Angove (May 26) reports—The cross-cut south, from eastern flat-rod shaft, we have driven about 3 fms., and intersected several small branches of white iron, which have considerably increased the water in the end; the lode in the winze, sinking in the bottom of the adit, is 3 ft. wide, with a good mixture of ore through it, producing over half a ton per fathom—the water is very quick; in the adit end, east of Nangle's shaft, the lode is about 2½ ft. wide, composed of gossan, with stones of lead; the pitches, in the back of the level, are much the same as last reported; there is a pitch, in the west of the winze, in the bottom of the adit level, which we are endeavouring to work, looking much better for lead; the pitches, in the old mine, west are producing still a small quantity of ore; no change in the level east from Slob shaft.

BEDFORD UNITED.—Capt. Thos. Ellery (May 31) reports—At Wheal Marquis, the sumpmen have commenced sinking the engine-shaft under the 90 fm. level. In the 90 fm. level east we are carrying 2 ft. of the lode, which is producing saving work; the lode in the 90 fm. level west is small and unproductive; in the stopes, in the back of this level, the lode is worth 35*l.* per fm.; the lode in Hodges's rise is 3 ft. wide, producing good saving work. The lode in the 80 fm. level east is 18 in. wide, producing good stones of ore. In Evans's winze, in the 70 fm. level east, the lode is 3 ft. wide, and will turn out about 2 tons of ore per fm.—a very promising lode. The 47 fm. level east is hard and unproductive. We weighed, at Morwelham, on Friday last, March ores, 70 tons 13 cwts. 2 qrs. and 49 tons 9 cwts., and sampled April ores, computed 66 tons and 38 tons (21 cwts).

CWM ERFIN.—Capt. Samuel Nicholls (May 27) reports—The men in the whim-shaft have sunk 5 ft. this week, which will make the present depth 5 fms. 2 ft.; the lode seems to have a stronger appearance since the last report—it is now about 15 in. wide, with some good stones of ore; the east end is still much the same—no improvement at present; the stope, west of whim-shaft, is still worth 10 cwts. of ore to the fm.; the stope, east of whim-shaft, is just as last reported—worth 20 cwts. of ore to the fm.; the stope, west of the eastern shaft, is worth 6 cwts. of ore to the fm.; the men in the engine-shaft have been clearing the stuff, and putting in timber for pent-house, during the week.

DEVON AND COURTENAY.—Captain N. Seccombe (May 30) reports—In the end, driving west on the gossan lode, the lode has not been taken down this week. The lode in the end, driving east on the south lode, is 1 ft. wide, composed of mundic, spar, and occasional spots of ore. In the winze, sinking in the bottom of the 40 fm. level, on the south lode, the lode is 15 in. wide, producing good saving work, and presents strong indications of improvement; the end driving south, on the cross-course, is still continued, but no lode has been discovered since last report. The sinking the engine-shaft to the 50 fm. level is completed, and the sumpmen began sinking this day to intersect the lode.

EAST CROWNDALE.—Capt. S. Paull (May 27) reports—The ground in the 58 fm. level north is more difficult to drive than when last reported upon—the killas being intermixed with capel and spar; the ground in the south end of the 58 fathom level is much improved, as you will perceive by the price in the setting-sheet. I am glad to state, that there is a very great improvement in the 47 fm. level west; the lode is about 15 in. wide, composed of capel, spar, peach, and copper ore—all saving work; and, from its general appearance, there is not the least doubt but that, in a short time, we shall have a course of ore; the winze, sinking below this level, is improving—the lode near 3 ft. wide, with a leader of ore, 7 inches wide, on the south wall, and the other parts of the lode, composed of peach, spar, mundic, and ore; the rise and stopes in the back are in appearance just as they have been for some time past; the lode, on an average, is 2 feet wide, composed of capel, spar, mundic, peach, and ore; we have taken up from this place upwards of 4 tons of ore during the past week. The lode in Diamond's engine-shaft, at Rix Hill, is about 5 ft. wide, composed of capel, spar, elvans, and spots of tin. The lode in the adit level, driving on the course of the south lode at Rix Hill, is about 3 ft. wide, composed principally of peach, which, although at present poor, is of a most kindly description; and, from its appearance, I expect soon to have a bunch of tin.

EXMOOR WHEAL ELIZA.—The agents, Thos. Dunn and W. Whitford (June 1), report—Since our last report, we have driven the 12 fm. cross-cut about 6 ft.; in doing which we have cut through the caunter lode, and find it 3 ft. wide, the greater part of which is gossan, thickly impregnated with mundic, and occasionally producing the most splendid specimens of sulphuret of copper. This lode is converging towards the great north lode in an eastern, and towards the south lode in a western direction; the exact degrees we have not as yet ascertained, having no dial on the mine. Can there be any doubt, but at these points of intersection vast deposits will be met with, as in other mines of a similar character? The ground north of this caunter is larger, and, consequently, better for breaking: this circumstance gives encouragement towards sinking the engine-shaft (being of a southern inclination, and, therefore, will shortly meet the perpendicular line of the shaft), which we strongly recommend, with all possible dispatch; for, reasoning analogically, we are not justified in the expectation of much copper, until we get at the foot of the gossan; although we acknowledge some few instances of vast returns having been made ere that point had been reached.

GREAT MICHELL CONSOLS.—Captain T. Richards (May 31) reports—The lode in the 45 fm. level, both east and west of the sump-winze, is, in its general character, of a very promising description, containing mundic, fluor, capel, spar, and ore. In the 35 fm. level, west of the sump-winze, the part of the lode being carried (3 ft.) continues to present very encouraging prospects, consisting of mundic, ore, capel, and spar.

HOLMBUSH.—Captain William Lean (May 30) reports—The lode in the 132 fm. level, west of the diagonal shaft, is disordered by several small cross-courses, with favourable ground for driving. The lode in the 120 fathom level south is 4 feet wide, composed of lead and white iron, worth 5*l.* per fm. The lode in the 110 fm. level south is 3 ft. wide, composed of quartz and lead, worth 5*l.* per fm.—the ground more favourable for exploring than it has been. The lode in the 100 fathom level south is 3 ft. wide, composed of soft spar and stones of lead; the lode in the rise, in the back of this level, is 2½ ft. wide, composed of spar, bespangled with lead—saving work; the lode in the winze, sinking below this level, is 3 feet wide, producing stones of lead, and opening tribute ground; the flap-jack lode, in the 100 fm. level east, is 3 ft. wide, composed of mundic, spar, blende, and stones of yellow copper ore, with favourable ground for driving through. The lode in the 90 fm. level south is 20 in. wide, composed of spar, flookan, and stones of lead—saving work. We sampled at Calstock Quay, on Friday last, April and May copper ore, computed 90 tons.

KIRKCUDBRIGHTSHIRE.—The agent (May 27) reports—In consequence of dry weather, I regret to say, we have not been able to discharge any stuff from underground during the week; 4½ ft. of water have also risen in the bottom of the mine, so that nothing has been done in the bottom ends for the week; we hope, however, to remedy this in the course of next week, by fixing a small lift of pumps at Keith's shaft, from the crusher water-wheel. The lode in the 40 fm. end, west of Stewart's shaft, is 4 feet wide, chiefly composed of spar, prian, flookan, and stones of lead; driving east from Keith's shaft, to meet this end, the lode is 4 ft. wide, producing ½ ton of lead per fm.; the end west of Keith's, in this level, is suspended until the other ends are holed, which we expect to have done in the course of next week; driving east on the caunter, in the 40 fm. level, the lode is small, disordered, and poor. The lode in the 30 fm. end, west of Keith's shaft, is 3½ ft. wide, composed of spar, prian, flookan, and spots of lead; in the same level, driving east of Stewart's shaft, the lode is 3 ft. wide, producing 5 cwts. of ore per fm. The tribute pitches, on the whole, look much the same as on last setting-day. We have engaged the vessel *Caledonia* to ship our ore on Tuesday next—computed nearly 40 tons.

MENDIP HILLS.—Capt. F. C. Harpur (May 29) reports—The lode in the 38 fm. level, south of shaft, continues about 1 foot wide, composed of spar and iron—ground very hard for driving; since my last we have intersected another branch, or lode, in this end, bearing about 30° west of south, carrying two very regular walls, composed principally of flookan, soft white spar, and a little iron—ground favourable; I have removed the men from the south end, and placed them to drive a few fms. on this lode. In the slag department we continue to press forward with our different operations as fast as possible; we have a large pile of slags prepared for the furnaces, and hope sufficient to keep us smelting eight or nine days; in the slag ground, the beds of stuff at present lying open present much the same appearance as for several weeks past, being about 12 ft. thick, some part of which is work of fair quality, and improving as we proceed towards the eastern part of the valley.

LEWIS.—Capt. S. Noell (May 27) reports—The lode in the 70 fm. level is 18 in. wide, producing some tin, and very kindly. The lode in the 70 west, on south branch, is improved since my last, now worth 4*l.* 10s. per fm. The lode in the 60 east is 2 ft. wide, worth 3*l.* per fm. The lode in the 60 east, on south branch, is much the same as when last reported. The lode in the 60 west, on south branch, is 4 ft. wide, worth 50*l.* per fm. The lode in the 50 east, on south branch, is 6 in. wide, worth 5*l.* per fm. The lode in the 40 east, on south branch, is 5 in. wide—saving work for tin. The south lode, in the 20 east, is 8 in. wide, yielding some good work for tin, driving at 10s. tribute. The south lode, in the 10 east, is producing some good work for tin—driving at 12s. tribute.

SOUTH WHEAL TRELAWNY.—Capt. W. Lean (May 27) reports—The 30 fm. level cross-cut is extended 4 fms. 1 ft. west of the engine-shaft, the ground in which is as favourable as needs be—set at 4*l.* per fm.; the level to be carried 7 ft. high and 4½ ft. wide. A suitable plat is also cut in this level, and we have set the shaft to sink at 15*l.* per fm. (2 fms. extent), at the same time to cut cistern, plat, and bearer holes, in order that we may fix our plunger-lift, previous to intersecting the lode, and to be prepared for an increase of water; also, to sink below this level without giving an extra price, thus avoiding many difficulties which we should otherwise have to contend with. The engine still keeps the water at two strokes per minute.

TRELEIGH CONSOLS.—Capt. William Symonds (May 26) reports—The 120, east of Christoe's, is driving on the lode, which is 2½ ft. wide; but little mineral. Garden's shaft, below the 100, is sinking in the country; in the 100, west of ditto, the lode is 3 ft. wide, producing good stones of ore, and of a promising character. We are cross-cutting south, in the 90, west of Garden's; this is to cut the south part of the lode, which has been split from the part we have been driving on for about two months. The cross-cutting north in the 90, east of Garden's, will be driven to cut the same lode we are working on in the 80, east of Garden's, by the tributers. In the 80, west of ditto, the lode is 1 ft. wide—at present but little ore; the rise, above the 80 west, is holed with a borer. In the 70, west of ditto, the lode is 2 ft. wide, worth 12*l.* per fm., and very promising; the winze, below the 70 west, is holed to the above. In the winze, below the 60 west, the lode is 2½ ft. wide, worth 8*l.* per fm.; the 60, west of ditto, is suspended for the present. In the 50, west of ditto, the lode is 2 ft. wide, worth 8*l.* per fm.; in the adit, east on Wheal Parent, the lode is 2 ft. wide, not so good as last week for ore—but it has a very promising appearance; the cross-cut, north of engine-shaft, is driving to cut Wheal Orphan lode, which we had expected several weeks since. The rise above the 100, east of Christoe's, is suspended; the 100, east of Garden's, the 90, west of ditto, and the 60, west of ditto, are suspended for the present.

WEST WHEAL JEWEL.—Captain Richard Johns (May 29) reports—In the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 2½ feet wide, worth 15*l.* per fm.; in the 57 fm. level east, on the same lode, the lode not taken down in the past week. In the 70 fm. level, west of Williams's cross-course, on the same lode, the lode will be taken down at the end of this week. In the deep adit, west of Hodges's cross-course, on the same lode, the lode is 9 in. wide, worth 3*l.* per fm. The men that have been stoping in the back of the 12 fm. level, west of Pryor's winze, on Tolcarne tin lode, have been, during the past week, driving south in the 12 fm. level, and have discovered more tin lode; the lode is worth 20*l.* per fm. In the deep adit, west of Quarry shaft, on same lode, the lode is worth 4*l.* per fm.

WEST WHEAL MARIA.—Captain Thomas Rodda (May 30) reports—At the western engine-shaft, we have resumed driving south in the 74 fm. level; and if the ground should prove favourable, we hope to reach the lode about three weeks from this time. The south lode, in the 34 fm. level, west of Vivian's shaft, is without important alteration.

WHEAL SARAH.—Captain J. Spargo (May 31) reports—We have sunk Mayhew's engine-shaft 4 fms. from surface, and have cut a stream of water between the over-burden and shelf. We have gone back to the river, so as to bring up a lobby to unwater the shaft; it will come in about 3 fms. deep in the shelf: by so doing, we shall take off all the surface water, so as to enable us to sink 20 fms. by the power of a horse-whim, which we intend to do while our engine is erecting. I am also happy to inform you, that the lead lode discovered in the adjoining sett is a parallel lode to that of Wheal Sarah: I have traced it nearly all the length of our sett, and it can be seen about 50 fms. west of the old engine-shaft, sunk on Wheal Sarah lode.

WHEAL TRELAWNY.—Capt. John Bryant (May 30) reports—In the 62 fm. level, at Phillips's shaft, we have set to cut ground for bearers and cistern, fix the same, with a 10-fm. drawing-lift; I expect it will take about ten days to complete this work, when we shall proceed with all possible speed with sinking the shaft to the 72 fm. level; the 62 end north is suspended for the present; we have commenced rising near the end, against the winze, sinking under the 52, where the lode is worth 7*l.* per fm.; the lode in the 62 south is large, and of a very promising character, but, at present, is worth only 5*l.* per fm. for lead. The lode in the 52 fm. level north is 2 ft. wide, composed of spar capel, and lead, worth 6*l.* per fm.; in this level south, the lode is similar to my last report—worth 9*l.* per fm.; the stopes in the back of this level are much as usual; we are obliged to suspend sinking the winze under, in consequence of the water, in which the lode will produce one and a half ton of ore per fm. The lode in the 42 north is still large, yielding about two-thirds of a ton of ore per fm.; the ground here is favourable for driving; the stopes in the back of this level, and in the 32, are producing a fair quantity of ore. At Trelawny's shaft, in cutting the plat in the 52, the ground is rather hard. The 22 cross-cut is without any particular change. At the north mine, the lode in the 30 fm. level, north of Smith's shaft, is large, producing rich stones of silver-lead ore.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

WHEAL ANDERTON.—Information has been received, that a lode has been cut in the 80 fm. level, and stones of ore taken from it, superior to anything yet seen in the mine. The writer advises shareholders to hold on to what they have got.

CARWINNING HILL.—The following is the report of Mr. P. N. Johnson, F.G.S., on the mineral ground of Carwinning Hill, in Ayrshire:—"The point of operations is on a hill, which forms part of a range, running nearly east and west, but rather more abrupt, and rising higher than those adjoining, and which range forms the northern boundary of a coal basin, which is bounded on the south by another ridge, from 2½ to 3 miles from the point first alluded to. This northern range continues for some miles in a north and north-east and westerly direction, and consists chiefly of trap rocks, with amygdaloidal and silicious rock, which seem to have been upheaved, and form, as before said, the base of the more horizontal seams of the carboniferous rocks. The operations prosecuted are at two levels, in the upper of which are very rich branches, or seams, of copper ore, in a state of yellow sulphuret, carbonised on the surface. These are more immediately in contact with the trap rocks, and, no doubt, by further prosecution, a considerable quantity of rich ore will be extracted. In the lower level, which is more immediately at the verge of the coal series, the lode—or rather seam—has been worked to some extent, and a cross-cut driven, for upwards of 30 fms. The seam on which the operations have been prosecuted is running about north-east and south-west; the north-east end is poor; but near the end a winze, No. 2, has been sunk about 3 fms. in the black bituminous shale, which produces strings of grey sulphuret of copper; further west, about 7 fms., another winze, No. 1, has been sunk more than 10 fms. in the same state, from which some very rich ore, existing as in No. 2 winze, has been taken, and is now being extracted; the seam in the bottom of the winze, in this part, is 4½ ft. wide, producing strong strings in every direction of rich grey copper—a fair sample of which, broken by myself, from near the footwall, produces 22 per cent. of copper; these strings, however, appear stronger in the footwall than towards the hanging wall, and are near a cross branch of spar, which, in this part, passes through the seam. There is a shaft sinking in a south-westerly direction, to take the seam, which it is expected to do at about 9 fms. in depth, which will be very useful for ventilation and further development, as well as drawing the stuff in future operations; and, when the shaft has taken the seam, a very considerable quantity of ore ground will, no doubt, be opened. With the hitherto limited operations of sinking the two winzes alluded to, and drawing only a few fathoms, a very good pile of copper ore is at surface, which the agent (Capt. Cock) estimates will produce about 30 tons of dressed ore, of produce from 15 to 20 per cent.; and certainly, if the bottom of the pile is equal to what is seen at the surface, I consider there can be no question as to the correctness of this estimate. I consider that the operations have been conducted judiciously, and with economy; and, should the continued operations prove as productive as the present prospect indicates, I should recommend sinking another shaft further south; also, bringing in any streams of water round the hill for dressing, and the erection of a crushing machine, for the greater expedition in returning the ore. I should also recommend the procuring a proper miner's dial and instrument, and the agent having directions to make and keep up plans of the workings. In conclusion, I beg to state, that I consider this interesting metalliferous deposit well worthy of prosecution. The ore from the winze No. 1 contains 46·10 of pure silver in 1 ton of 20 cwts., which, if reduced with the metallic copper, would render it more valuable.

CONTRACT FOR COALS TO EGYPT.—The East India Company, by their finance committee, will receive tenders up to Wednesday, the 14th inst., for the supply of 1000 tons of coals, to be delivered at Alexandria. The coals so to be supplied must be either West Hartley, Carr's Hartley, Buddle's West Hartley, Davison's West Hartley, Hartlepool, or Stewart's Wall's End.

REFINED COPPER.—A Norwegian vessel has arrived in the river from Hammerfest, having on board 7239 ingots of fine copper.

MOLONG MINE, SOUTH AUSTRALIA.—We understand that 60 tons of picked ore from this mine were lately sent to Sidney for shipment to England, and found to contain 40 per cent. of pure copper. Besides the blue and green carbonates found in South Australia, a good deal of grey oxide has been found mixed occasionally with considerable flakes of native copper, and also silver, and marcasite.

AYRSHIRE IRON COMPANY.—The Blair Iron-Works, belonging to this company, together with the adjoining lands and estate of Picton, part of the sequestrated estate of Mr. Alexander Alison, late managing partner of that company, as recently advertised in the *Mining Journal*, were, on Wednesday, the 24th May, put up to auction in the Exchange sale-rooms—the former at the upset price of 65,000*l.*, and the latter at 37,000*l.* No bidders appearing, the sale was adjourned.

CRAIG DDU SLATE COMPANY.

The first general meeting of shareholders was held at the offices, Moorgate-street, on Tuesday the 30th inst.—JOHN MORGAN, Esq., in the chair.—A detailed statement of accounts, from the 1st August, 1845, to 31st March last, was presented, showing balance in favour of the company, 165*l.* 12s. 4d. The following report was read to the meeting:—

In presenting you with these accounts, and this report of the quarry, the directors have pleasure in being able, at this the first general meeting of the company, to assure you that they have every reason to be satisfied with its workings. The manager, Mr. Meyrick, has recently made a minute survey of the quarry, and reports most favourably of its promising appearances, and that, with a further outlay of capital, it would be one of the largest in the principality. Out of 3655*l.* expended on the quarry, 2000*l.* have been judiciously laid out in removing toppage, clearing, and further opening. The quarry has already yielded in slate and slab 2800*l.*, still leaving in the two bargains now being worked 900 tons more of slate, which will produce about 1700*l.* Nos. 2 and 3 floors have also been considerably enlarged—the directors, therefore, refer with great satisfaction to these encouraging indications; but, for the more particular development of the vast resources of the quarry, it will be necessary to drive a new level 16 yards below the present workings, the cost of which, including additional machinery, will not exceed 1200*l.* A very large quantity of uncovered rock will then be perfectly clear for making slate, and will produce at least 18,000 tons, and yield a very considerable profit. The directors fully expect that, by a spirited and judicious outlay of capital, the most beneficial results will accrue to the shareholders. The directors, in consequence of the peculiar monetary crisis which existed during the past year, refrained from making heavy or repeated calls upon the shareholders, but trust now to receive that support which the importance and magnitude of the undertaking demand; and feel assured, that if so supported, all their prospects will be realised, and the quarry become one of the most profitable undertakings ever brought before the public.

The resolutions passed at the meeting will be found in our advertising columns.

HERODSFOOT MINING COMPANY.

At a general meeting of adventurers, held at the mine, on Friday, the 26th May, the accounts were examined and passed, showing—Calls received, 527*l.*; ores sold, 2203*l.* 18s. 6d. = 2730*l.* 18s. 6d.—By balance of the last account, 269*l.* 7s. 1d.; cost for Jan., Feb., and March, 1423*l.* 6s. 7d.; bills, 898*l.* 17s. 7d.; lord's dues, 77*l.* 5s. 8d.—leaving balance in favour of adventurers, 62*l.* 1s. 7d.—It was resolved, that Mr. P. Dunstan be elected second captain of the mine, at a salary of 6 guineas per month.—That the salary of Captain Medlen be 6 guineas per month, instead of 7 guineas as heretofore.—That the meetings, in future, be held every two months.—The following report by Capt. Medlen was read to the meeting:—

Herodsfoot Mine, May 26.—Since my last report, of the 28th of Feb. last, our engine-shaft has been sunk below the 94 fm. level 7 fms. 3 ft. The 94 fm. level is driven north 9 fms.; the lode in this end is 3 ft. wide, producing three-quarters of a ton per fathom; it is not so well here as when first cut into. This level is driven south 8 fms., where we have had branches of the lode from 6 in. to 1 ft. wide: we are now driving west, to cut the lode we have in the north end. The 82 fm. level is driven north 12 fms. 3 ft.; the lode in this end is 1½ ft. wide, producing 1½ ton per fathom: this end is suspended for the present, in order to put a rise through to the 72 fm. level. The 82 fm. level is driven south 14 fms.—the lode is 2½ ft. wide, producing 1 ton per fm.; in a winze sinking below this level, 15 fms. south of the engine shaft, the lode is 2½ ft. wide, producing 1½ ton per fm. The 72 fm. level is driven north 7 fms.; the lode in this end is 1 ft. wide, producing 1½ ton per fm.; this end is extended the farthest north of our levels; the 72 fm. level south is driven 5 fms. 3 ft. on the western part of the lode, where the eastern part has been cut into and found to be 2 ft. wide, producing three-quarters of a ton per fm.; the horse between the two parts of the lode in the present end is 2 ft. wide—at 5 fms. further north it is 6 ft. wide. The 62 fm. level is driven north 6 fms. 3 ft.; the lode in this end is 1 ft. wide, producing three quarters of a ton per fm.; a rise has been put up in the back of this level 5 fms., where we have had good bunches of ore, but at present it is poor. The rise in the back of the 52 fm. level, against Windsor shaft, is up 10 fms. Windsor shaft is sunk 9 fms.: we expect to hole this shaft to the rise in the course of eight or nine days. We have 11 tribute pitches working on an average tribute of 3*l.* 10s. per ton, from which we are raising about 70 tons per month, which will about meet the present cost, it being greatly increased by raising stone for the new buildings, making a new dressing-floor, sinking Windsor shaft, and rising against the same, horse labour in drawing stone, working Windsor whim, &c. We expect to get our new engine to work in about five weeks, soon after which we calculate to raise 120 tons of ore per month.

PEMBROKESHIRE IRON COMPANY.

The first annual meeting of shareholders was held at the offices, Gresham Rooms, Basinghall-street, on Wednesday last, the 31st May.

WM. CHADWICK, Esq., in the chair.

The SECRETARY read the advertisement convening the meeting, and the following directors' report:—

REPORT.

Your directors, in meeting the proprietors on this, the first time since the formation of the company in July last, notwithstanding the general depression and stagnation in the iron trade, think the shareholders may be congratulated upon their present position and prospects. This being a period of almost unexampled difficulty, has induced your directors to be exceedingly cautious in making any outlay beyond what they saw to be absolutely necessary, partly on this account; but chiefly because your directors have been endeavouring to procure from Lord Milford a modification of the agreement entered into with his lordship, is the cause of the delay in erecting the furnaces for smelting iron. By the original agreement with his lordship, the company were to erect six furnaces within a limited period; they were to pay a reserved rent of 500*l.* per annum, and a royalty of 7d. per ton on ironstone, and were free to use any ironstone they pleased. The modification your directors have been seeking to obtain is this—that for the present, and until your directors see that it would be desirable to erect others, only two furnaces should be erected, and the reserved rent should be dispensed with—the company only paying the royalty on the ironstone, the company being willing, in return, to bind themselves to use only his lordship's ironstone. Your directors are happy to say, that they have been met in the most liberal manner by Lord Milford; and it is believed, that all the alterations suggested will be agreed to, his lordship appearing most anxious to promote the success of the company. These arrangements being settled, it is proposed at once to erect the furnaces; and your directors believe, from the report of the engineer, that before the winter they will be in blast. The collieries are proceeding satisfactorily—the price obtained for their very valuable coal increasing, as its superior quality becomes known. Your directors have been for some time engaged in widening the roads in the pits, for the purpose of substituting horses for the present objectionable mode of boy labour. This, and enlarging the pits, for the improved mode of working, and the re-opening and widening a pit, which had not been used for some time, has caused a considerable outlay; but your directors feel confident, that the expense will be fully compensated by the increase of coal that will be obtained when the improvements are completed. Your directors have also under their consideration the manufacture of patent fuel from anthracite culm. Should the experiments succeed, it will prove of the greatest importance to the interests of the company. Your directors have engaged the services of Mr. J. B. Hoggod as manager, who has been many years with the Neath Abbey Company; his salary will commence at 200*l.* per annum. Since the formation of the company, 2*l.* per share has been paid upon the shares; your directors now propose to make another call of 1*l.* per share. In compliance with the 44th clause of the Deed of Settlement, the following gentlemen retire from the direction:—William Chadwick, Esq.; Edward Chuck, Esq.; and John Disney, Esq.; and, being eligible, offer themselves for re-election. By the same clause, Augustus Ironmonger, Esq., one of the auditors, retires, and offers himself for re-election. In conclusion, the directors submit the balance-sheet to the 31st of March last, with a copy of which each proprietor will be furnished.

From the statement of accounts, it appeared that the amount of cash received on calls was 8295*l.* 11s. 9d.; proceeds of sales at collieries and lime-kilns, 3633*l.* 11s. 1d.; interest, &c., 4*l.* 19s. 8d. = 11,934*l.* 2s. 6d.—By purchase of mines, 5137*l.* 9s. 8d.; cost at collieries, wages, &c., 6305*l.* 19s. 5d.; travelling and sundry expenses, 22*l.* 2s. 4d.: leaving a balance in hand of 468*l.* 11s. 1d.

The several gentlemen named in the report were then severally re-elected as directors and auditor, and a vote of thanks having been passed to the chairman, who briefly replied, the meeting separated.

WEST WHEAL FRIENDSHIP MINING COMPANY.

A meeting of adventurers was held at the mine, on Wednesday, the 24th May, when the following report was read, much to the satisfaction of the shareholders present:—

Devonshire Great Consolidated Copper Mines, May 23.—In accordance with your request, I yesterday visited West Wheal Friendship Mine, and send you the result of my inspection. The engine-shaft has been sunk 5 fms. under the 43 fm. level, the lode in which is 8 ft. wide, composed of capel, mundic, spar, and rich yellow copper ore. The 43 fm. level has been driven 11 fms. west of the engine-shaft; the lode is 6 ft. wide, composed of mundic, capel, spar, and occasional spots of ore: this level from the shaft has been driven through a very kindly lode. I observe, that the operations of this concern have for some time past been retarded, but not unnecessarily—as, owing to the great influx of water, it was thought advisable to fix a dam in the 33 fm. level; and this, added to the time required for fixing new pitwork, and other preparatory arrangements, has caused the apparent delay; the work is now, however, quite complete, and in good condition. From the very favourable appearance of the lode in the shaft, I have no doubt but at a greater depth it will be productive, and eventually prove a very profitable speculation.—JAMES RICHARDS.

WHEAL FORTESCUE MINING COMPANY.

At a meeting of adventurers, held at the office, Tavistock—JOHN RUNDLE, Esq., in the chair—the accounts were examined and passed, showing—Balance from last account, 210*l.* 14s. 11d.; call, 256*l.*—together, 466*l.* 14s. 11d.—By costs for five months to April last, 315*l.* 7s. 1d.—showing balance in favour of adventurers, when all calls are paid, of 151*l.* 7s. 10d. A call of 1*l.* per share was made, and it was resolved that the purser take immediate steps for recovering all calls in arrear. The following report from Capts. Seccombe and Key was read:—

May 11.—In furnishing you with a report of this mine, we beg to state, that since the last general meeting, the following work has been done—viz.: ground for a plunger-lift, including bearers, cistern, &c., has been cut in the 20 fm. level, and an 8-inch plunger has been fixed in that level, and has been found to answer quite to our expectations, and we believe we shall now have no difficulty in keeping the mine drained, even in the dry season; and also the preparatory work necessary to be done previous to the commencement of the sinking the shaft under the level completed—as the cutting a plat, putting in penthouse, &c. Since this work was finished, we have resumed sinking the engine-shaft below the 20 fm. level, and we have now the pleasure of stating, that the sump is down already more than 5 fms. below this level. The stratum through which we have so far sunk is a beautiful light-blue killas—very congenial for copper ores. Several droppers, or branches, have been met with, containing rich stones of ore. We have nine men employed in sinking the shaft, at the rate of 15*l.* per fm. We calculate, from the present favourable nature of the ground, that we shall, in future, be able to sink 3 fms. per month, and at this rate it will occupy five months from the present time to reach the 40 fm. level, at which depth, judging from the kindly appearances over in the 20 fm. level, we fully calculate that the lode will be found productive. We beg here to recommend that, as soon as the 40 fm. level is reached, a cross-cut south should be begun, to prove the lodes in that direction, as well as the cross-cut to the north lode. Every exertion is being made, so as to reach the desired object at the earliest possible date.

NEW GRANADA MINING COMPANY.

A special general meeting of shareholders was held at the offices, Austin-friars, on Friday, the 2d inst.—J. D. POWLES, Esq., in the chair—when the SECRETARY (Mr. L. R. Jones) having read the notice convening the meeting,

The CHAIRMAN said, it would be observed the meeting had been called for the specific purpose of authorising the directors to dispose of the property of the company and to dissolve the same; when a resolution to that effect was passed unanimously, and the meeting separated.

WHEAL MARY ANN MINING COMPANY.

At a two-monthly meeting of adventurers, held at the White Hart Inn, Liskeard, on the 24th inst.—C. CHIPPENDALE, Esq., in the chair—the accounts were examined and passed, showing—Labour cost for February and March, 512*l.* 12s. 3d.; merchants' bills, 263*l.* 0s. 3d.; lord's dues, 92*l.* 1s. 8d.—together, 867*l.* 14s. 2d.—By lead ores sold, 1136*l.* 10s.—leaving balance in favour of adventurers of 268*l.* 15s. 10d., which deducted from debit of last account, 593*l.* 2s. 7d., leaves balance against the adventurers of 324*l.* 6s. 9d. The following report from Capt. P. Clymo was read:—

May 22.—The lode in the 40 fm. level, south of the boundary, is 2 ft. wide, and worth 20*l.* per fm. Barratt's shaft is sunk 10 fms. 5 ft. under the 30 fm. level, where the lode is 4 feet wide, and worth 10*l.* per fathom; we expect to hole this shaft to the 40 fm. level by the end of the present week, which will enable us to increase our returns. [This shaft was holed to the 40 fm level on the 24th May.] In the 30 fm. level south of Barrett's shaft, there is an exceedingly promising lode, 3 ft. wide, composed of gossan, quarts, and some stones of lead; this looks well for the next level. [This level is improved, and the lode is now worth 5*l.* per fm.] The stopes in the back of this level are producing a fair quantity of work, but it is not raised rich. Pollard's shaft is sunk 4 fms. under the 30 fm. level; the lode in this level, south of the shaft, is 1½ ft. wide, composed of cun and some lead; in the same level north, it is 1½ ft. wide, producing some stones of lead. The lode in the 15 fm. level, south of the shaft, is 1 ft. wide, and very kindly; the lode in a winze sinking under this level is 1½ ft. wide, with some good stones of lead. I purchased, at the Silver Valley sale, an 18-ft. water-wheel, with a 6-head stamps attached; also a crushing machine at Wheal Gill, to be worked by the same wheel, which will effect a great saving in our ore dressing, and consequently will soon pay for itself. On Monday, the 8th of June, we calculate to sample from 55 to 60 tons of ore; and, on the whole, I consider our prospects are very good, and I hope shortly to see the balance on the credit side of the book.

WHEAL TREHANE MINING COMPANY.

At the usual two-monthly meeting of shareholders, held on the 25th May—Mr. JOHN PHILP in the chair—the accounts were examined and passed, showing—Balance last account, 410*l.* 0s. 3d.; ores sold, 1533*l.* 17s. 3d. = 1944*l.* 17s. 6d.—By cost and bills for Jan., Feb., and March, 1034*l.* 7s. 5d.; lord's dues, 99*l.* 13s. 1d.; dividend, 256*l.*; leaving balance in favour of adventurers of 554*l.* 17s.—A dividend of 30s. per share was declared, payable 7th June inst.

The following report from Capt. Richards was read:—

At Kelly's shaft we have 6 ft. more to sink for a 55 fm. level. The ground in the bottom of the shaft is more favourable than it has been for some time past. The lode in the 45 fm. level north is 2½ ft. wide, producing about 9 cwts. of lead per fm.; in this level south, the lode is worth 10 cwts. of lead per fathom, and ground favourable for driving; the stopes, in the back of this level, are turning out a fair quantity of ore. In the stopes, in the bottom of the 35 fm. level, south of Phillips's shaft, the lode is without any important alteration since last report, worth 7 cwts. of lead per fm; but, north of the shaft the lode is much improved, yielding three quarters of a ton per fm. The stopes in the bottom and back of the 30 fm. level north are on an average turning out tolerably well; in the cross-cut, driving west in this level, we have in the last 3 fms. driving cut through two small branches, composed of spar, and mundic—the end is now driven about 12 fms. The last parcel of ore, computed 67 tons, was sold on Tuesday last, at 16*l.* 16s. per ton.

GREAT ROUGH TOR CONSOLS.—In our report of the bi-monthly meeting of this company, in the *Mining Journal* of last week, we made an error in the accounts, which made it appear that the balance against the company was 785*l.* 3s. 6d. The following is the correct statement: The labour cost for March amounted to 260*l.* 13s. 10d., leaving a balance in favour of the adventurers of 528*l.* 2s. 4d., which, with calls expected to be paid before the next meeting, 244*l.*, would make 772*l.* 2s. 4d.; while the liabilities to be met before that period were—castings, 30*l.*; April costs, 255*l.* 3s. 6d.; May and June, estimated 500*l.*—together, 785*l.* 3s. 6d.

GREAT WORK.—At a meeting of adventurers held at the mine, on Tuesday last, the accounts were passed, of which the following is an abstract:—Balance in hand Dec., 1847, 353*l.* 0s. 9d.; tin and copper sold Jan., Feb., and March, 1848, 3146*l.* 15s. 11d.=3499*l.* 16s. 8d.—Costs, lord's dues, &c., Jan., Feb. and March, 2754*l.* 12s. 11. Balance in favour of adventurers 745*l.* 3s. 9d

HERODSCOMBE.—At a general meeting of adventurers, held at Herodsfoot Mine, on May 26, the accounts were examined and passed, showing—Balance of last account, 504*l.* 15s. 4d.; cost for Jan., Feb., and March, 230*l.* 14s. 8d. = 735*l.* 10s.—By calls, 186*l.*; ores sold, 77*l.* 19s. 6d.—leaving balance against the adventurers, 471*l.* 10s. 6d.—It was then resolved, that the mine be abandoned.—That the materials be disposed of by public auction or private contract, together or in lots.—That a call of 1*l.* per share be made, payable immediately to the East Cornwall Bank, Liskeard.

TREVISKEY AND BARRIER.—At the two-monthly account for February and March, of TREVISKEY, the proceeds from the sale of ores (less 1-12th dues) amounted to 1680*l.* 18s. 8d.; for materials, 14*l.* 5s. 4d.=1694*l.* 18s. 7d.—By labour cost, &c., 1349*l.* 3s. 11d.—showing profit of 345*l.* 14s. 8d.; add balance in hand, 15*l.* 18s. 9d.=361*l.* 13s. 5d.—deduct dividend of 3*l.* per share, declared 22d May, 360*l.*, leaves in hand 1*l.* 13s. 5d. The following is the report of Capt. J. Jennings:—"In Michael's shaft, sinking below the 248 fm. level, the lode is 2 ft. wide, worth 15*l.* per fm.; in the same level, east of the above-named shaft, the lode is 3 ft. wide, producing 1 ton of ore per fm. In the 226 fm. level, east of the above-named shaft, the lode is 20 in. wide, producing stones of ore. In the 200 and 212 fm. levels the lode is unproductive. The 188 and 176 fm. levels are in the killas; the lode is small. We have sunk Williams's old sump-shaft to the 30 fm. level, and are now driving towards the lode, which we expect to reach by the end of this month. On Wednesday last we sampled 306 tons of ore, and expect to raise 300 tons for May and June."—BARRIER: Sale of ores (less 1-14th dues), 281*l.* 11s. 11d.—By labour cost, &c., 214*l.* 7s. 9d.—profit, 67*l.* 4s. 2d.; add balance in hand, 112*l.* 1s. 5d.=179*l.* 5s. 7d.—deduct dividend of 1*l.* per share, declared 22d May, 120*l.*, leaves now in hand, 79*l.* 5s. 7d. Capt. Jennings reports:—"We expect to raise from the pitches for May and June 40 tons, and from the stamps and halvans 70 tons.

IMPROVED LAUNDRY IRONS.—We have inspected an improvement in the mode at present adopted of using the common flat-iron, in getting up linen, muslins, &c.; which, from its economy and cleanliness, is likely to come into very general request. All parties using the common iron are aware of the trouble and difficulty of getting the face sufficiently clean, so as to do away with the possibility of soiling the article about to be operated on, and the danger of scorching the material, should the iron prove too hot; while the old box-iron, from its clumsiness, has been entirely exploded. The present improvement consists of a thin sheet-iron slipper, or shoe, with a highly polished surface, which need never be removed from the table. The iron may be heated in a common fire, or at a proper laundry stove, in the usual manner; it is then, without any occasion for even wiping, placed in the slipper; a spring toe-piece is turned over, which fastens it on, and the operation can be proceeded with until the iron is cold, when another may be immediately substituted. By this means a great deal of time is saved, there is no fear of any stains from dirt, and much less danger of scorching than by the method now in use.

IMPROVED DECANTER.—We have been favoured with an inspection of a decanter, just introduced by Mr. Millidge, of the Strand, which possesses certain advantages over the common form, which will, doubtless, be duly appreciated by connoisseurs in the art of administering the juice of the grape to the best advantage. The decanters are blown to any shape required; but have a globular, or conical, hollow chamber within, opening outward from the bottom, and tightly closed by a screw stopper of silver, plated, or other metal, or by any other means. Into this chamber may be introduced ice, cold or hot water—and thus, according to the season of the year, or the nature of the wine in use, it may be kept warm, cool, or cold, according to taste; or the chamber need not be used at all, when the decanter will have only the usual appearance. They add little to the cost; and they will, certainly, be found highly convenient under many circumstances.

NEW HOISTING POWER.—A machine of a very singular construction, invented by Mr. W. G. Armstrong, of Newcastle-upon-Tyne, has, within the last few days, been put in operation at the Albert Dock, for the purpose of raising goods from the quay into the warehouses above. The moving power is the pressure of the water supplied from the mains of the Green-lane Water-works, and by the action of this power, nearly 2 tons of goods can be hoisted up on a sliding stage in a few seconds to the highest floor of the building. The engine works with great precision and delicacy, both in lifting and lowering, and its movements are very easily controlled. A duplicate of the machine is now in course of erection at the same place, so that two of them will shortly be brought into action. Mr. Armstrong (who has patented the invention), has already applied the same principle with perfect success for working quay cranes at Newcastle; but the hydraulic machine at the Albert Dock is the first instance of the application of the principle in the case of warehouses. The successful introduction of a cheap and rapid method of delivering ships and warehousing goods must be regarded as a matter of the utmost importance to the port of Liverpool, where these operations are carried on to such an enormous extent; and a power so safe and energetic as hydraulic pressure, which can be conveyed to every part of our docks and warehouses, and which, without any preparation, is always ready to exert its power whenever it may be needed, possesses peculiar recommendations for the purpose. We perceive that an engine upon the same principle, but for a different purpose, and more closely resembling a steam-engine, has been recently put in operation at Newcastle.—*Liverpool Mercury.*——The Edinburgh and Northern Company have ordered four of these cranes for Granton and Burntisland; and they are are also to be brought into use by the Glasgow General Terminus Company.—*Scotsman.*

JOINT-STOCK COMPANIES AND CORNISH MINES.

SIR,—I observed, with much surprise, in the report of the proceedings in the House of Commons, on Thursday last, that on the third reading of the Joint-Stock Companies' Bill, Mr. Wyld, one of the Members for Bodmin, added, as a rider to the bill, a clause, extending its provisions to *all associations, or companies*, formed for the purpose of working mines or minerals. I need not tell you, Sir, that the Legislature has hitherto wisely exempted from the Acts affecting Joint-Stock Companies the Cornish Mines, which are worked on the *Cost-book System*; and we have thereby as yet escaped the intricacies and expenses attendant on joint-stock companies. It has remained for a stranger to Cornwall to thrust upon us, in an hour when our mines can ill afford an additional burthen, the Joint-Stock System and its attendant expenses, with the cheap remedy of a suit in Chancery, as a help to the winding-up of a losing mine. I cannot imagine but that the rider of Mr. Wyld was consented to by Government hastily, and in ignorance of its real effect; but where were the Members for Cornwall?—where were the Members for Truro? who lay claim to the especial duty of watching over and protecting our mining interests? Under the Cost-book System, and through our local Stannary Court, we have a short and inexpensive mode of compelling adventurers in Cornish mines to pay their fair proportion of the working expenses of the mines in which they speculate. Is it that Mr. Wyld feels himself aggrieved, in having been recently compelled by such proceedings to contribute his own share of such expenses in the mines in which he speculates? Is it retaliation which has induced him to add this obnoxious rider, so injurious to the mining adventurers and to the mining creditors in Cornwall? Mr. Wyld, when elected one of the Members for Bodmin, professed great zeal for the mining interest. How has he since evinced it?—By an Act most suicidal to the electors who returned him, who are deeply interested in the success of our staple commodities, and whose attention I invite to this ungracious return for their kindness. It is too late to remedy the inadvertence of the other Cornish Members in the House of Commons, but the bill must still pass through the House of Lords; and I think the attention of the Earl of Falmouth may be drawn by this notice to the injurious effect of Mr. Wyld's rider; and that his lordship will, by procuring its excision in the House of Lords, again entitle himself to the grateful thanks of the Cornish miners, of which body I subscribe myself a humble member.—A CORNISH MINER: *Truro, May* 30.

FOURDRINIER'S PATENT SAFETY APPARATUS.

SIR,—Mr. Fourdrinier's letter, in your last publication, has forced me unwillingly to again intrude myself on your columns, and to lay before the public facts which I should not else have done. Mr. Fourdrinier says, that the apparatus when put to work proved too weak, and the wedges too short—this is the truth, but not the whole truth; the fact is, the action was erroneous, the carriage, or cage, could not be brought to stop horizontally—so much so, that had men or load been on it, they would have been thrown off. The pit was stopped four days, as can be seen by the working account, during which time he endeavoured in vain to remedy the defect. Before leaving, he having had some conversation with the smith, offered that, if he could improve it, he would give him 1*l.* per year on every pit up to 500, to which the improved apparatus might be applied, and called a witness to hear him. The smith, however, seeing he could not follow him to look after these pits, said he would rather have 30*l.*, and this being conceded, he, with myself, concocted an improvement, altering quite the plan of action, having only one motion instead of two, then the wedges acted on the guides simultaneously, and the carriage was stopped horizontally; the holes the wedges worked in were also changed, to obviate their shifting. Mr. Fourdrinier's apparatus is at the colliery now, and any person can compare it with the one now at work, and see they are totally different. We conceive, and every one in this neighbourhood does so also, and I have Mr. Kirkwood's authority (the proprietor of the colliery) for saying, that a very considerable improvement has been effected, and that, but for our exertion, the thing would have been looked upon here as a complete failure: the pit was stopped for four days at great expense, and we were, in no way, called upon to give another trial. As to the 80*l.*, if Mr. Fourdrinier had acted up to his word, and given the smith what he promised, he would have heard nothing further of it: the man would have been rewarded for his trouble, and Mr. Fourdrinier might have worn the laurels the smith's ingenuity would have assisted him to gain; but, for him to endeavour to grasp the whole credit, and retain the reward promised, is what we could not submit to—undoubtedly, he has received very considerable aid, which he appears no way desirous of acknowledging. Not all the strength he could have put into the apparatus he brought here would cause it to act properly on guide chains; the principle of action required alteration; with flat rod guides it might act. I am convinced if we chose to do so, our improvement might be patented; but really nothing but the ill-treatment we think we have experienced at Mr. Fourdrinier's hands, after doing our best for him, would cause us to entertain the idea. With regard to the letter said to have been read to me, I deny it ever was; and, in fact, we were not together in the office for a single moment on the day he mentions, as I have my witnesses to prove. I shall not trouble you any further on the subject, but consider the case should be known on the facts. D. LLOYD.

Gwain-cae-Gurwen Colliery, Cwmammon, near Llandilo, May 30.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	*Traffic Returns.* 1848	1847
Birkenhead, Lancashire, & Chesh.	15	997,284	37	5 *p.c.**	£703	644
Caledonian	130	3,594,470	31½	—	3943	—
Chester and Holyhead	59¼	2,871,470	22	—	602	—
Dublin and Drogheda	35	754,529	23½	—	797	865
Dublin and Kingstown	7¾	473,282	—	6	1157	1044
Dundee, Perth, & Aberdeen Junc.	47	415,078	28½	8	921	—
East Anglian (Lynn to Ely)	55¼	1,062,742	7¼	—	498	—
East Lancashire	26	1,733,915	18½	—	1040	560
Eastern Counties and Norfolk	295	9,833,899	14½	4	14846	12041
Eastern Union	51½	979,926	20	-	1217	1002
Edinburgh and Glasgow	53	2,481,767	44½	—	3525	3500
Edinburgh and Northern	29	1,392,092	18½	4*	1529	—
Glasgow, Paisley, and Ayr	64½	2,097,321	80	6	2176	2511
Glasgow, Paisley, & Greenock	23	845,554	15½	4	1145	1174
Gt. Southern & Western, Ireland	110¼	1,809,787	22½	4*	2364	1510
Great Western	281½	10,970,636	92	7	20675	21826
Kendal and Windermere	10½	169,888	23	—	150	—
Lancaster and Carlisle	70	1,395,193	50	4	1732	1178
Lancashire and Yorkshire	136¾	7,597,618	86	7	9343	9152
London and North Western	428	21,513,354	127	8	42093	47246
London and Blackwall	4	1,241,061	4½	1½	1252	1296
London, Brighton, & South Coast	161½	6,087,822	31½	4	12938	11772
London and South-Western	189	6,264,164	47½	8	9625	9685
Londonderry and Enniskillen	14½	145,135	16	—	145	87
Manchester, Sheffield, & Lincolnsh.	62	2,336,624	50½	5	2526	2126
Maryport and Carlisle	28	440,851	40	—	547	633
Midland Company	422½	9,853,122	101	7	20135	20986
Midland Great Western (Irish)	36¼	725,332	10½	4*	1041	—
Newcastle and Carlisle	66½	1,407,375	111	6	2074	2338
North British	81	2,800,748	22½	5	2070	1731
Shrewsbury and Chester	17	780,272	15½	—	597	423
South Devon	50½	1,609,071	20	—	1351	627
South-Eastern	165½	6,932,181	24½	6½	8261	8274
Taff Vale	28	820,056	—	5½	1660	1367
Ulster	36	684,684	52	4½	787	898
Whitehaven Junction	12	147,095	7	4½	207	197
York, Newcastle, & Berwick	242½	4,466,526	32½	9	12003	9192
York and North Midland	230½	3,799,297	70	10	8179	6303
FOREIGN RAILWAYS.						
Amiens and Boulogne	75½	673,338	6¾	4	1372	524
Antwerp to Ghent (monthly)	31	——	—	—	—	—
Marseilles to Avignon	71½	——	8½	—	—	—
Dutch Rhenish	57½	——	¼	—	—	—
Northern of France	211	2,000,000	4½	4	10189	11366
Orleans to Bourges (Central)	107½	——	—	—	2050	
Orleans to Tours	72	600,000	32½	4	2602	2970
Paris and Orleans	82	2,011,720	22½	12½	6987	8168
Paris and Rouen	85	2,082,916	15½	11½	3754	3270
Rouen and Havre	59½	——	8	5½	1512	2981
Strasburgh and Basle (monthly)	88	——	6	1½	—	7350
West Flanders ..... (ditto)	—	——	¼	—	988	—

* Interest.—Total for last week, £189,778, being an increase of £18,781 over last year.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 13 9—Chester Main 13 3—Davison's West Hartley 14—Hasting's Hartley 14—New Tanfield 12 6—Richardson's Hartley 12 6—South Penreth 13 6—Tanfield Moor 13—Walker's Primrose 12—Wylam 13 6—West Wylam 13 6—Eden Main 14 6 to 15—Cowpen Hartley 14—Howard's West Hartley Netherton 14—Hartley 14—Wall's End Brown's Gas 12—Benaham 12 3—Framwellgate 13 6—Belmont 15—Bell 14 9—Hetton 17—Jonassohn 13 6—Morrison 13 9—Caradoc 15 3—Hartlepool 17—Hudson's Hartlepool 14 6—Thornley 14 6—Tees 16 6.—Ships, 112; sold, 46.

WEDNESDAY.—Buddle's West Hartley 14—Chester Main 13 3—Davison's West Hartley 14—Hasting's Hartley 14—New Tanfield 12 6—Ord's Redheugh 13—Richardson's Hartley 12 6—South Pearth 12 6—Tanfield Moor 13—Tanfield Moor Bute's 12 6—Wylam 13 6—West Hartley 14—Wall's End Bewicke and Co. 13 6—Brown's Gas 12—Riddell's 13—Eden Main 15—Braddyll's Hetton 15 6—East Hetton 13—Haswell 16 6—Hetton 16 6—Jonassohn 13 3—Lambton 16—Russell's Hetton 16—Shotton 15—Stewart's 16 6—Caradoc 15 3—Hudson's Hartlepool 14 6—Kelloe 15—Thornley 14 6—South Durham 13 6—Hartley 14.—Ships at market, 84; sold, 51.

FRIDAY.—Buddle's West Hartley 14—Chester Main 13—Davison's West Hartley 14—Hasting's Hartley 14—Holywell Main 14 3—New Tanfield 12 6—Ord's Redheugh 13—Richardson's Hartley 12 6—South Pearth 12 6—Tanfield Moor 13—Tanfield Moor Bute's 12 6—Townley 13—Wylam 13 6—West Hartley 14—Wall's End Brown's Gas 12—Hedley 13 6—Wharncliffe 13 9—Washington 13—Eden Main 14 9—Lambton's Primrose 14 6—Braddyll's Hetton 15 3—Bell 14 6—Haswell 16 6—Morrison 13 6—Caradoc 15 3—Cassop 14 6—Hudson's Hartlepool 14 3—Heugh Hall 13 9—Seymour Tees 14 3—South Durham 13 6—Cowpen Hartley 14—Derwentwater Hartley 13 9—Garmant Stone 23—Hartley 14—Sidney's Hartley 14.—Ships at market, 78; sold, 44.

THE COPPER MINERS' COMPANY.

VICE-CHANCELLOR'S COURT,—YESTERDAY.

LORD *v.* COMPANY OF COPPER MINERS—DEMURRER.—The defendants were constituted a corporation by letters patent of August 3, 1691, and the object of the suit was to have it declared that the court of assistance of the company had no power to create a valid charge upon the company, by loan notes, otherwise than by debentures sealed with their common seal; and that all securities purporting to charge the company other than such debentures might be delivered up to be cancelled; and to have it also declared that the court of assistants had no authority to raise, by the issue of preferential shares, any greater sum than 400,000*l.* without the sanction of the shareholders; and to obtain a declaration that a mortgage by the company to the Bank of England had been improperly obtained, and was void. The bill also prayed that the Bank of England might be restrained from suing out execution on a judgment entered up by them against the mining company, on a warrant of attorney given by the latter company to the Bank. The bill was filed by one of the shareholders on behalf of himself and the other corporators, except such of them as were defendants. According to the statements of the bill, the plaintiff, in 1846, had allotted to him 200 preferential shares; that in October, 1847, the court of assistants had executed an instrument purporting to be a mortgage of the property of the company to the Bank of England for 270,000*l.*

The bill also stated, that the court of assistants had raised considerable sums on the security of loan notes, and the five of the defendants, who were shareholders, were holders of large numbers of such notes—that 50 other shareholders also held such notes; but that their interests were sufficiently represented by the five defendants in question. The bill charged that the transaction with the Bank of England was unauthorised by the charter, and was not binding on the company; and that the bank had notice that the parties were officers of the mining company, who were trustees for the plaintiff and the other shareholders, and had also notice that the court of assistants were acting contrary to their duty, and in derogation of the rights of the plaintiffs and the other shareholders. To this bill the defendants demurred. The demurrer which now came on for hearing was that of the mining corporation.

Mr. WIGRAM and Mr. WILLCOCK, in support of the demurrer, contended that no case for equitable relief was made by the bill; and, further, that the other persons holding loan notes were not made parties. They also argued, that holders of debentures ought to have been parties.—Mr. RUSSELL and Mr. HOBHOUSE supported the bill.

The VICE-CHANCELLOR said, that independently of the objection as to parties, his Honour that the demurrer ought to be overruled—for this was the demurrer of the company only and it was a general rule, that one defendant could not maintain a demurrer, on the ground, that another person was improperly made a co-defendant. That being so, what the bill stated was this: a case of a mortgage obtained by another defendant under circumstances making it bad in equity; and the bill further stated, that the mortgage was procured by undue concealment and pressure, and ought to be declared void. Now, supposing all this to be established, his Honour was not prepared to say, that a person interested in a corporation as a corporator was not, as a *cestui que* trust, entitled to file a bill against the corporation as filling the character of a trustee for him, and other parties, charging collusion and something more.

If his Honour thought such a conclusion at variance with "Foss *v.* Harbottle" (2 Hare, 461) and "Mozley *v.* Alston" (1 Phillips, 790), he should not have formed it, agreeing altogether as his Honour did with those authorities. With regard, however, to the question of parties, his Honour did not remember any case in which the decree sought was anything of so practical and direct a nature as the delivering up and cancellation of document held by absent parties, and in which the suit had been allowed to proceed in their absence. Now, this relief was sought in the present case against some of the corporators who were not defendants, and his Honour, therefore, felt obliged to accede, though unwillingly, to the objection, and must allow the demurrer without costs, and giving the plaintiffs leave to amend the bill.

LAW LIFE ASSURANCE COMPANY.

A special meeting of this company was held yesterday (Friday), at their offices, Fleet-street—Mr. OLIVER FARRER in the chair—for the purpose of receiving the report of the directors for the past year, and of dividing the surplus funds of the company.—Mr. DOWNES (the actuary) read the report, which detailed the progressive accounts of the company in septennial periods up to the 31st of December, 1847. From this it appeared, that the total number of policies issued during the last 24 years was 12,896, of which 7764 were in force on the 31st of December last, and 6473 entitled to participate in the profits. The average amount of new premiums, for the last seven years, was 22,076*l.* per annum. The assurance fund, on the 31st of December, consisted of—Assets, 2,844,815*l.*, and liabilities, 2,116,535*l.*: leaving a surplus of 728,283*l.* divisible amongst the proprietors and the assured in the following proportions—viz.: one-fifth to the proprietors, amounting to 145,656*l.*, and four-fifths amongst the assured, amounting to 582,626*l.* The guarantee fund now amounts to 457,229*l.*

The dividend on the shares is increased from 25s. to 36s. per share per annum, being at the rate of 18 per cent. per annum on the amount paid up. The sum of 582,626*l.*, allotted to the assured, had been increased into a reversionary bonus of 883,098*l.* During the 24½ years of the society's establishment, the sum of 1,764,503*l.* (inclusive of 199,383*l.* bonus) had been paid in claims upon death; and, during the same period, profits amounting to 1,556,086*l.* had been divided. In this sum the assured had participated to the extent of 1,244,869*l.*, and this sum had been increased into a reversionary bonus, amounting to 1,929,085*l.*

The CHAIRMAN, in moving the adoption of the report, said, he would make no comments on that document, because he did not know in what view it might strike honourable proprietors. The directors themselves thought it highly satisfactory. (Applause.) In the last year's business, there had been a trifling diminution in the number of policies issued (30), and in the premiums (1000*l.*) This, however, was no cause of despondency—(hear, hear)—for he need scarcely call to their recollection, that, when first they commenced, there was only one other similar establishment connected with the profession. Now, there were nine competing societies. He made no boast of the circumstance, but he could not refrain from mentioning a fact communicated to him by the actuary, that the annual premium of this company equalled, within a very trifling amount, the premiums of six of the other companies he had referred to. (Applause.) When they were first established, there were only 22 insurance offices in the metropolis; now, there were 150. (Hear, hear.) Out of 13,000 policies issued, only one had been opposed, and that was a case of gross fraud.

After some few further observations, the worthy CHAIRMAN paid a high compliment to the talent and assiduity of the actuary (Mr. Downes), and concluded by moving the adoption of the report, which, having been put to the meeting, was carried unanimously.

A vote of thanks to Mr. Downes was then passed, to which that gentleman replied; and the CHAIRMAN having acknowledged a similar compliment, the meeting separated.

GRATITUDE OF PUBLIC COMPANIES.—At a meeting of shareholders of the Charing-cross Bridge Company, on Thursday, the chief business was proposing the following resolution:—"That in consequence of the peculiar position this company is in with reference to the sum of 10,000*l.*, said to be mixed up with the affairs of the company, a committee should be formed of five persons, to see and arrange the affair."—Mr. Hawes, jun., who occupied the chair, refused to receive it, when a noisy discussion ensued, of three hours' duration, when Mr. Hawes left the chair, declaring the meeting at an end—after which it was passed, and one to the effect, that the retirement of Mr. Hawes would be beneficial to the company.—This is an instance of how little the services of public officers are appreciated or remembered—this gentleman, with his family, have been from the first projection of the company among its most steady adherents.

ABERAVON.—We regret to learn, that the Oakwood furnaces, and the extensive collieries, belonging to the Governor and Company of Copper Miners, have been brought to a stop, in consequence of a dispute having arisen between the Bank of England, who are in possession, and C. R. M. Talbot, Esq., M.P. A large number of men are thrown out of employment in consequence of it. It is to be hoped, for the men's sake, that some arrangement will shortly be effected.—*Cambrian.*

SWANSEA PATENT FUEL WORKS.—This extensive manufactory, under Warlich's patent, shipped their first cargo of the contract with Government, on Thursday. The works, which are now in operation, cover between three and four acres of ground on the eastern side of the Swansea river, and contain eight presses worked by steam, each press having 12 revolving moulds. There are also 30 double retorts, or ovens, each retort containing a carriage capable of holding one ton of fuel. Several additional retorts are likewise in the course of erection. The two immense iron tanks are made to contain 500,000 galls. The machinery is ranged under the cover of an iron roof, measuring now 300 ft. by 47, which is to be extended between 60 or 70 ft. The smoke, which at present ranges at freedom, is to be consumed by a chemical apparatus for that purpose. By the erection of these works, Swansea has received another valuable addition to her various establishments for manufacturing and commerical purposes. When the works are in full operation, it is expected that 2000 tons per week will be manufactured. In addition to a contract with Government, for the supply of 30,000 tons, others have been entered into with the Oriental Steam and other companies.—*Cambrian.*

THE NAVIGATION LAWS.—The total number of petitions presented to Parliament, up to the 30th of May, in favour of a repeal of the Navigation Laws, was nine, and the total number of signatures was 2268. The total number of petitions presented against the repeal of those laws, and praying the House to refuse its sanction to any alteration subversive of the principles on which they are founded was 91, and the signatures appended amounted to 32,908.

NEW PATENTS.

W. Wood, Cranmer-place, Waterloo-road, carpet manufacturer, for improvements in weaving carpets and in printing carpets and other fabrics.

W. Seaton, Camden Town, Middlesex, gentleman, for improvements in closing tubes, and in preventing and removing the incrustation in boilers.

W. J. Barsham, Stratford, Essex, for improvements in the manufacture of mats.

T. H. Barber, King-street, Cheapside, for improvements in machinery for sawing wood.

R. C. Mansell, Grange-road, Surrey, gentleman, for certain improvements in the construction of vehicles used on railways or on common roads.

T. W. Turton, Sheffield, for certain improvements in machinery for bending and fitting plates or bars of steel, iron, and other materials to be used for locomotive engine and carriage springs and other purposes.

J. W. Rogers, Nottingham-street, Dublin, for certain improved methods and machinery for the preparation of peat as a fuel, and in the combination of certain substances as a compost or manure.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

W. Bonsor, Kinolton, Nottinghamshire, drain pipe.

M. Scott, Liverpool Corporation Water-Works, Liverpool, design for a water-cock intended principally as a hydraut for watering streets, supplying shipping, fires, &c.

G. Simpson, Glasgow, safety winding and detaching catch for mine shafts.

W. Webb and W. Greenway, Birmingham, knob cupboard turn.

J. Brayton, Crookholm-hill, Sebergham, Cumberland, mill-stone.

J. Tongue, Parade, Birmingham, brooch fastener.—*Mechanics' Magazine.*

IMPROVEMENTS IN OBTAINING COPPER FROM COPPER ORES.

SIR,—I request the favour of your correcting an error in your last Journal. In the list of patents granted, you have miscalled me, as well as misstated the place of my residence.—J. P. PENNY: *Clarendon-terrace, Notting Hill, June* 2.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending May 27, was 14,499; amount of money, £60 9s. 3d.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 9 per Cent., 191	Belgian, 4½ per Cent., —
3 per Cent. Reduced Ann., 83½ ¾ ½	Dutch, 2½ per Cent., 42¾
3 per Cent. Consols Ann., 83¾ 4	Brazilian, 5 per Cent., 67
3½ per Cent. Ann., 83⅝ ½ ⅝	Chilian, 6 per Cent., 49
Long Annuities, 8½ ⅜	Mexican 5 per Cent., 15 14¾
India Stock, 10¾ per Cent., —	Russian, 5 per Cent., 87½
3 per Cent. Consols for Acc., 84 ½ 4	Spanish, 5 per Cent., 12⅝ ¾
Exchequer Bills, 1000*l.* 2d. 35 32 pm.	Ditto 3 per Cent., 22½ ¾

MINES.—Although the business actually transacted in the mining share market during the week has not been extensive, there is every probability of an improved market, if we may judge from the inquiries and negociations for several of the dividend-paying and leading mines. Among such we may mention Devon Great Consols, Seton, North Roskear, East Wheal Rose, Par Consols, Carn Brea, &c.

For Tamar, Herodsfoot, Callington, and Tincroft shares, inquiries have continued during the week, and business done, especially in the former, and at an improved price.

Shares in the following mines have been done this week—viz.: Devon Great Consols, South Basset, Callington, Tamar, Herodsfoot, Rough Tor, Holmbush, West Wheal Jewel, West Providence, Gwinear, Mendip Hills, Tincroft, &c.

Treviskey and Barrier account meeting, for February and March, was held last week, when a dividend of 3*l.* per 120th share was declared on the former, and 1*l.* on the latter. The balance in hand in the two mines was 80*l.* 19s.

Wheal Trehane two-monthly account was held on the 25th ult., and gave a dividend of 30s. per 256th share, and not 25s., as stated last week, in the absence of the official account—reserving a balance in hand of 554*l.* 17s., with March costs charged up, and upwards of 1100*l.* worth of ores sold on the 23d.

Wheal Mary Ann account meeting, for February and March, was held on the 24th (the report of which we did not receive in time for last week's Journal). The statement of accounts presented a balance in favour of the company of 824*l.* 6s. 9d.

Herodsfoot meeting, held on the 26th ult., shows a balance in favour of the adventurers on the three months' workings; and the captain's report represents the mine in a very gratifying position, with every probability of declaring a dividend at the next account. Her neighbour, Herodscombe, is to be abandoned.

Carwinning Hill shares have not been so much in request during the last week or ten days as previously. This, probably, may arise from the circumstance of a talented geologist, as well as metallurgist, having gone down to inspect and report upon the character and prospects of the speculation, the district being perfectly new and untried. That gentleman, having returned, has furnished the result of his investigation, which we have given in another column, and leave for the judgment of practical men. Having fulfilled our engagement of the 20th ult., we will merely observe, the opinion entertained by Mr. Johnson represents the metalliferous portion, as being rather a seam than a regularly formed lode, and the probability that a large deposit of ore may be found in depth.

In foreign mines the transactions have been more limited than last week—some business has been done in Imperial Brazilian, Australian, Kinzigthal, Asturian, St. John del Rey, and United Mexican shares.

South Australian papers state that sales of mineral lands, recently effected to the extent of 1624 acres, had realised a gross amount of 6800*l.*, at the rate of 4*l.* 3s. per acre—the upset price being 20s. per acre.

By the Indian Mail, we learn that the metal market has been generally less active; British and Swedish iron, and some sorts of copper, which had been in request, have declined in price. The fall is attributed to the lowness of the rivers at this season, precluding a transmission of supplies upward; consequently, a revival may be anticipated after the rains have commenced: lead appears to maintain its price.

The following arrivals of specie have taken place since our last—viz.: By the Peninsular and Oriental Steam Navigation Company's ship, *Iberia*, at Southampton, on the evening of Sunday last; on freight, 7 packages of specie (value, 51,000*l.* sterling), &c. By the company's steamer, *Ripon*, with the East India and China mail, and on freight, 105 pack. of specie (value, 77,167*l.* 12s. 10d.); 4 packages of gold coin (value, 2670*l.*), &c. On Tuesday, at Liverpool, the Royal Mail steam-ship, *Britannia*, from New York, with 3000*l.* in specie, on freight.

RAILWAYS.—During the early part of the week, up to Wednesday, the railway share market remained singularly steady; but heavy and inactive, with little business, and prices quoted as last week. Brightons and Eastern Counties, however, went down, in consequence of money to be raised by the former, by a call for extensions and steam navigation expenditure; and the latter to raise capital on preference shares. Since, then, there has been a slightly downward tendency in prices, and the market closed yesterday afternoon very dull.

HULL, THURSDAY.—The share market is still neglected: small amounts of stock continue to be taken by those who have money to spare (not a very numerous class) for *investment*, and to average former purchases; but *speculative* buying operations, there are none that deserve the name. Local stock is unaltered, except Glass shares, which are in better request. Two or three lots have changed hands at 16 dis.; and, at a rather lower quotation, a fair number could be disposed of.

LATEST CURRENT PRICES OF METALS.

LONDON, JUNE 2, 1848.

	£ s.	£ s. d.		£ s.	£ s. d.
IRON—Bar *a* ..Wales.. *ton*	5 15—	6 0 0	COPPER—Ord. bottoms ..	0 0—	0 0 11
,, ..London ..	6 15—	7 0 0	YELLOW METAL SHEATHING	0 0—	0 0 9½
Nail rods ,, ...	0 0—	8 0 0	TIN—Com. blocks *g* .. *cwt.*	0 0—	3 15 0
Hoop (Staf.) ,, ...	0 0—	9 0 0	,, bars	0 0—	3 16 0
Sheet ,, ,, ...	0 0—10	0 0	Refined	0 0—	3 19 0
Bars ,, ,, ...	0 0—	8 10 0	Straits *h*	0 0—	3 14 0
Welsh cold-blast foundry pig ..	3 5—	4 0 0	Banca	4 2—	4 4 0
Scotch pig *b*, Clyde	0 0—	2 4 0	TIN-PLATES—Ch., IC *l*, *box*	1 8—	1 9 0
Rails, average	0 0—	7 0 0	,, IX ...	1 14—	1 15 0
Chairs	0 0 -	4 0 0	Coke, IC	1 4 6	1 5 0
Russian, CCND *c*..	0 0—17	0 0	,, IX	1 10 6	1 11 0
,, PSI	0 0—	——	LEAD—Sheet *k* ..... *ton*	0 0—17	10 0
,, Gourieff	0 0—	——	Pig, refined	0 0—18	5 0
,, Archangel	0 0—13	0 0	,, common	0 0—16	10 0
Swedish *d*, on the spot	0 0—11	10 0	,, Spanish, in bd.	0 0—18	0 0
Steel, fagt.	0 0—16	0 0	Red	0 0—19	0 0
,, ,, *kegs*	0 0—13	10 0	Dry White	0 0—23	0 0
COPPER—Tile *f*	0 0—87	10 0	Shot (Patent)	19 15—20	0 0
Tough cake	0 0—88	10 0	SPELTER—(Cake) *l* on spot	13 5—13	10 0
Best selected	0 0..91	10 0	,, for arrival	0 0—	——
Ordin. sheets, *ib*...	0 0— 0	0 10	ZINC—(Sheet) *m* export.	0 0—21	0 0
			QUICKSILVER *n* ..... *lb.*	0 0— 0	3 9

MONTHLY REPORT.

IRON.—Welsh and Staffordshire have given way, since the 1st ult., 10s to 15s. per ton. The demand for export continues very inactive for these descriptions, as well as for Scotch pig; but the price of this last has improved about 2s. per ton. Of Swedish there have been some sales made, chiefly for arrival, at prices varying from 11*l.* 10s. to 12*l.* per ton. In steel, nothing doing.

COPPER and YELLOW METAL SHEATHING remain at last quotations.

TIN.—Towards the close of last month, sales of English were made in anticipation of the fall of 2s. per cwt., which has been generally announced to-day: the demand is moderate. A corresponding decline on Straits has been established about three weeks, but there is no demand for either this or Banca (which is still held at last month's price) worth noticing.

The stock of Straits and Banca on the 1st ult. was	*Tons* 415
Exported in May	9
Cleared for home use in ditto	24— 33
Leaving stock on hand this day	*Tons* 382

TIN-PLATES remain dull of demand, but some qualities of coke have advanced 6d. per box since our last.

LEAD, like all other metals, has been in very limited request, and we quote most sorts a shade lower than last month. About 410 tons of Spanish were imported here in the past month: it was, however, chiefly of hard quality, and a major part of this is destined for Newcastle, to be de-silverised.

SPELTER advanced during the past month, in consequence of the blockade of the Elbe, from 13*l.* 10s. to 14*l.* 10s. per ton; the improvement, however, was not sustained by an increased demand, and the price has again receded to 13*l.* 10s., at which there are sellers. The imports last month were about 1830 tons. The stock on hand 1st June, 1847, was 1240 tons; it is now 3500 tons.

QUICKSILVER was twice reduced 1½d. per lb. in the past month.—*June* 1.

GLASGOW, JUNE 1.—In consequence of the unsatisfactory accounts from the continent and the United States, with the excessive dulness in trade at home, we have again to repeat the usual accounts of a dull market in pig-iron. From the lack of demand, the price, for the last few days, has exhibited a downward tendency. We should hope that, in these times of cheap commodities, the country at large is gathering the elements of a long lease of prosperity—in the realisation of which, the iron trade may be expected largely to participate. We quote the price nominally at 44s. to 44s. 6d., cash, free on board.

SOUTH WALES RAILWAY.—The subscription by this company to other lines, into which the shareholders have been drawn, have excited some alarm. The Great Western Company are to guarantee 4 per cent. and half profits on 4,000,000*l.* of capital for this company, but not on more capital, and the shareholders are to find any additional capital as they best can. If contributions to Vale of Neath, Cornwall, and Plymouth Docks, Welsh or Irish lines, are sanctioned, and additional capital necessary and authorised, merely the "4 and half per cent. profits guaranteed up to a certain sum only," will be affected. Then comes the question—why should this company, for the relief and benefit of the guaranteeing company, subscribe for more capital for other insolvent lines? Parliament has refused to legalise 5 per cent. instead of 4 per cent. interest to the South Wale Company, which the Great Western, of course, strove to carry: the verba "guarantees" are said to be illegal.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Aberyswestin	1	—
512	Albert Consols	1	2½
1024	Alfred Consols	4½	8
235	Andrew and Mangilow	23½	8
1000	Antimony and Silver-Lead Mining & Smelting	5	5½-6
1634	Balleswidden	9	18
128	Balmoon Consols	25	25
10000	Banwen Iron Co.	2	—
1000	Barristown	4½	3
4000	Bedford	2½	3
1244	Birch Tor Tin Mine	9½	2
2000	Blaenavon	50	23
100	Botallack	175	80
120	Brewer	5	7
10000	British Iron, New, regis.	10	13
—	Ditto ditto, scrip	10	10
128	Budnick Consols	52½	35
128	Burthy	20	21
128	Callestock	17	30
4000	Callington	19	27
20000	Cameron's Steam Coal	6	5½-6
256	Caradon Copper Mine	9½	2
256	Caradon Mines	22½	17
256	Caradon United	24	5
256	Caradon Wh. Hooper	31	14
4000	Caru Brea	15	95
3000	Carthew Consols	1½	6
2048	Cascade	1	2
412	Charlestown	220	30
166	Cleveland	9	8
512	Coatlithe Hill	½	1
1900	Coubmartin	7½	3
500	Comblawn	5½	6
128	Comfort	45	75
256	Condurrow	20	30
2560	Cook's Kitchen	14	2
1000	Coombe Valley Quarry	2½	3½
6500	Cornish Mining Co.	2	2⅝-½
1000	Copper Bottom	1½	6½
1024	Cosheen	4½	20
223	Craddock Moor	16½	42
128	Creeg Braws	120	100
500	Cubert Mine	12½	10
1000	Cwm Erfin	3½	3½
300	D. Prior & Buckfastleigh	14	26
4100	Derwent	8½	5
1024	Devon & Courtenay Con.	7½	1½
1024	Devon Great Consols	1	210
1000	Dhurode	2	5
186	Dolcoath	36	15
2560	Drake Walls	4	4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
256	East Alvenney	10	25
112	East Caradon	47	47
2048	East Crowndale	5½	4½
512	East Combe Silver-Lead	6½	6½
128	East Pool	5	10
100	East Relistian	22	40
3000	East Tamar Consols	½	1
—	East Wheal Albert	1	3
94	East Wheal Crofty	125	280
1024	East Wheal Fortune	2	3
1024	East Wheal Friendship	3	3½
128	East Wheal Rose	50	900
2048	East Wh. Rough Tor	½	2
—	East of Scotland Iron Co.	2½	1½
123	East Wheal Seton	14	10
256	Elborough	1½	2
256	Exmoor Wh. Eliza	4	6
512	Fowey Consols	40	45
6400	Gadair	2	2
20000	Galvanised Iron Co.	10	9½
4000	Gen. Mining Co. for Irel.	1½	1½
2048	Georgia Tin Mines	1½	1½
256	Gonamena	34	35
128	Goonvrea	4	1½
2414	Grambler & St. Aubyn	—	10
100	Great Consols	1000	400
256	Great Callestick Moors	22	25
2560	Great Michell Consols	1½	3½
256	Great Resugga Moor	11	4
512	Gt. Wh. Rough Tor Con.	15½	15
100	Grogwinion	5	—
256	Gwinear Consols	7	6
6000	Heignston Down Con.	½	2½
256	Herodsfoot	18	26
10000	Hibernian	12½	1⅝
239	Hobb's Hill	6	3
4000	Holmbush	19	5
627	Kirkcudbrightshire	5½	4
2048	Lamberoose Wh. Maria	11	4
128	Lelant Consols	90	60
160	Levant	—	80
4000	Lewis	15	6½
1000	Llwyn Malees	5	—
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	15	15
6000	Marke Valley	10	2
5000	Mendip Hills	2½	¼
5000	Merionethshire Slate & Slate Slab Co.	1½	2
30000	Mining Co. of Ireland	1	5½
256	New East Crowndale	3½	3½
128	North Fowey Consols	37	34
100	North Pool	45	380
440	North Roskear	5½	150
256	North Wh. Abraham	1	1
262	North Wh. Leisure	½	2
15000	Northern Coal Co.	23	2
128	Par Consols	—	1000
4000	Pennant	1½	2
100	Penrhiw	30	65
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	10
512	Plymouth Wh. Yeoland	6½	23
256	Polsaith Consols	4½	7
112	Providence Mines	35	45
10000	Rhymney Iron	50	20
16000	Ditto New	7	6⅞
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
—	Shotts Iron Company	50	50
128	South Caradon	10	450

BRITISH MINES—*continued.*

Shares.	Company.	Pa	Price.
1100	South Dolcoath	3	2½
256	Sth. Friendsh. Wh. Ann	16	25
200	South Harvannah	10	25
256	South Molton	5	8
256	South Tolgus	7½	35
256	South Treluswney	20	10
128	South Wheal Basset	110	95
256	South Wh. Betsey	2½	12½
124	South Wh. Francis	160	200
1000	South Wh. Maria	2½	1½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	6
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	16
9600	Tamar Consols	3	6
1024	Tavy Consols	4	8
6000	Tincroft	7	6
1000	Tin Vale	2½	4½
128	Tokenbury	152½	10
256	Trehane	2½	26
5000	Treleigh Consols	6	2½
2000	Trenance	2	50
96	Tresavean	10	210
120	Trethellan	5	16
120	Treviskey and Barrier	130	100-5
288	Trevean	1½	25
128	Trewellard	12	26½
100	United Mines	300	350
256	Wellington Mines	15	25
128	West Basset	45	25
256	West Caradon	20	90
128	West Cargoll	2	12
512	West Fowey Consols	40	15
256	West Providence	9	12
200	West Seton	40	160
—	West of Scotland Iron Co.	210	210
120	West Trethellan	5	30
256	West United Hills	—	5-6
512	West Wheal Francis	1½	5
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	11	1½
2560	West Wh. Maria	3	1
256	West Wheal Shepherd	5	2½
256	West Wheal Tolgus	21½	5
256	West Wheal Treasury	19	12-14
5200	Wicklow Copper	5	10½
184	Wheal Adams	51	10
1000	Wheal Agar	—	10
256	Wheal Albert	10	1
128	Wheal Acland	13	2
256	Wheal Allen	2	5
240	Wheal Anderton	21	20
128	Wheal Ann	—	50½
512	Wheal Anna Maria	4½	5½
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	20
2560	Wheal Barbara	1½	4-5
256	Wheal Benny	12½	7
256	Wheal Blencowe	21	5
256	Wheal Bucketts	20	5
256	Wheal Calstock	5	7½
136	Wheal Clifford	190	190
1024	Wheal Coad	½	5
128	Wheal Courtenay	—	20
6000	Wheal Curtis	3	1
256	Wheal Dyke	12	13
256	Wheal Fortescue	6½	5
388	Wheal Franco	27	30
128	Wheal Harriet	45	50
256	Wheal Jane	21	15
—	Wheal Lawrence	—	3½
256	Wheal Louisa	8½	8
112	Wheal Margaret	79	350
512	Wheal Mary Ann	5	12
237	Wheal Mary Consols	42½	5
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	15
99	Wheal Seton	214	900
194	Wheal Sisters	32½	12
256	Wheal Sophia	5½	10
128	Wheal Spearne	10	75
128	Wheal St. Ann	9	15
550	Wheal Tresscoll	1	12½
260	Wheal Trelawny	7½	65
256	Wh. Tremaine (St. Ervan)	4½	20
256	Wheal Tremayne	35	15
128	Wheal Trew	20	21
92	Wheal Tryphena	140	265
242	Wheal Venland	29½	30
256	Wheal Vlow (Perranz.)	½	½
184	Wheal Vyvyan	—	60
256	Wheal Williams	6	8

FOREIGN MINES.

5000	Alten Mining Company	14½	3
15000	Asturian Mining Co.	13	1⅝
20000	Australian	2½	2½
10000	Anglo-Mexican Co.	100	2
12374	Ditto Subscription	25	2½
6000	Barossa Range	½	2
3000	Bolanos	150	2½-3
2000	Ditto Scrip	15	2⅝
12000	Brazilian Imperial	23	4½
10000	Cobre Copper Co.	40	15
10000	Copiapo Mining Co.	14	2½
10000	General Mining Ass'n.	20	11½-12
5000	Kinaigthal Mining Ass.	2	4
20051	Mexican Company	59	—
2000	Mexican & South Amer.	8	1½
5000	Mocaubas & Cocaes	30	6
29320	{Rl. del Monte, regis. / Ditto unregistered}	28½	1½-⅜
	Ditto Red Debentures	—	10
	Ditto Black ditto	—	5
	Ditto Loan Notes	150	60
7000	Royal Santiago	10	6
2000	Pachuca Mines	4	4½
11000	St. John del Rey	15	8½
43174	United Mexican	Av. 28½	2

SOUTH AUSTRALIAN SHARE MARKET—JANUARY.

Company.	No. of Shares.	Capital.	Paid-up.	Present Price
Burra Burra	2464	£12,320	£12,320	£160 0
Princess Royal	400	20,000	14,800	60 0
Mount Remarkable	1000	25,000	22,500	25 0
Adelaide	2000	10,000	10,000	4 7
North Kapunda	436	28,000	21,800	15 0
Royal Mining Company	10000	100,000	10s. p. sh.	1 1
Greenock Creek	300	1,000	1,000	6 0
Montacute	100	5,500	5,500	55 0

CALLESTOCK MINE.—A meeting of adventurers was held on Tuesday last, when the following accounts for January, February, March, and April, were allowed, and a call of 2*l.* per share was made:—By balance at end of Dec., 330*l.* 3s. 10d.; ores sold (less dues) 418*l.* 19s. 10d. = 749*l.* 3s. 8d.—To costs, &c., 722*l.* 13s. 6d.: balance in favour of the adventurers, 26*l.* 10s. 2d.

CONSOLS MINES.—The usual two-monthly meeting of adventurers was held at the account-house, on the 17th of May, when the accounts for March and April, of which the following is an abstract, were examined and allowed.—By balance from last account, 1735*l.* 4s. 9d.; ores sold (less dues) 8978*l.* 10s. 5d. = 10,713*l.* 15s. 2d.—To costs and merchants' bills, 8608*l.* 15s. 8d.: balance in favour of the adventurers, 2104*l.* 19s. 6d.

TRESAVEAN.—A meeting of adventurers was held at the account-house, on Tuesday last, when the accounts were passed as follows:—By balance at the end of Feb., 797*l.* 4s. 9d.; ores sold (less dues) 2582*l.* 12s. 8d.; water charges, &c., 205*l.* 14s. 1d.=3585*l.* 11s. 6d.—To costs and merchants' bills for March and April, 2674*l.* 8s. 9d.: balance in hand, 911*l.* 2s. 9d.

TRETHELLAN.—At a meeting of adventurers, on Tuesday last, at Tresavean account-house, the accounts for March and April, as follows, were allowed:—. By balance from last account, 319*l.* 5s. 5s.; ores sold (less dues), 545*l.* 16s. 2d = 865*l.* 1s. 7d.—To costs and merchants' bills, 419*l.* 16s. 6d.: leaving balance at bankers of 445*l.* 5s. 1d.

Dreadful Boiler Explosion.—An accident of a fearful and awfully fatal character occurred yesterday morning at the works of Mr. Jeffries, Hart's Hill Works, Brierley Hill, Staffordshire. About half past 6 o'clock, a tremendous noise, similar to an earthquake, was heard at a great distance round, which was immediately discovered to have proceeded from the bursting of one of the large boilers of the steam-engine. A great portion of the buildings is destroyed, every person near it was killed, and several at a considerable distance. From the confusion, it is yet unknown how many lives are lost, but 10 dead bodies have been taken out of the ruins, and others are expected to be in the canal which runs near the works. From some providential cause, the day men were not to come to work till 8 o'clock: had they come at their usual time, the loss of life must have been immense. One man was killed by pieces of iron and stone at 200 yds. distance.

A melancholy accident happened on Monday last, at the granite quarry of Mr. R. Hosken, in the parish of Mabe, to two men and a boy, by the sudden explosion of a rock they were blasting, by which one man, named Lawry, was killed on the spot. The other man and boy were much cut about the head and eyes,

LEAD ORES.

Sold at Truro.

Mines.	Tons.	Price.	Purchasers.
Callestock	21	£10 14 6	Walker, Parker, & Co.
Sold at Holywell.			
Pen-yr-benbles	50	£9 12 6	Newton, Keates, & Co.
ditto	44	9 10 6	Walker, Parker, & Co.
Westminster	43	8 10 6	ditto
ditto	7	9 2 0	Mather & Co.
Jamaica	60	9 3 0	Newton, Keates, & Co.
ditto	60	9 3 0	Walker, Parker, & Co.
ditto	10	10 5 6	J. P. Eyton.
Belgrave	39	8 18 0	Newton, Keates, & Co.
Parys	2½	6 7 0	Walker, Parker, & Co.
Halkin Hall	6½	9 0 0	ditto
Shallee	36	11 11 0	Mather & Co.
ditto	4	8 5 0	Walker, Parker, & Co.
ditto	1	4 10 0	ditto
Bagillt	26	8 9 0	Newton, Keates, & Co.
ditto	20	5 0 0	ditto
Total tons		400.	
Sold in London.			
East Tamar Consols	20	£11 5 6	Sims, Willyams, & Co.
Callington	90	16 5 0	Tamar Company.
Total tons		110.	
Sold at the Mine.			
East Wheal Rose	85	£10 5 6	R. Michell & Son.
ditto	71	10 3 6	ditto
ditto	50	10 5 6	ditto
Total tons		206.	
Sold at Aberystwith.			
East Logylas	65	£9 5 6	Newton, Keates, & Co.
ditto	50	9 5 6	ditto
Darran	25	14 12 0	ditto
Bog	45	8 11 0	Walker, Parker, & Co.
Total tons		185.	
Sold at Bagillt.			
Rhoswydol	26	£8 10 0	Walker, Parker, & Co.
Dwfngwm	13	3 11 6	Newton, Keates, & Co.
Nantmelyn	17	8 16 0	ditto
Total tons		56.	

BLACK TIN,

Mines.	Tons.	Amount.	Purchasers.
Charlestown	5½	£38 7 6	Daubuz.
ditto	1½	39 5 0	ditto
ditto	½	27 0 0	ditto
Great Polgooth	38	40 17 6	Calenick Co. and Williams.
ditto	2	37 0 0	Ditto and ditto.

COPPER ORES.

Sampled May 17, and Sold at Tyack's Hotel, Camborne, June 1, 1848.

Mines.	Tons.	Price	Mines.	Tons.	Price.
North Pool	112	£3 16 0	Tincroft	55	£3 18 6
ditto	105	4 4 6	ditto	53	4 8 0
ditto	102	3 19 6	ditto	29	1 0 0
ditto	92	3 16 6	ditto	26	3 5 6
ditto	91	2 14 6	South Wh. Basset	59	3 19 0
ditto	84	2 11 0	ditto	58	2 8 6
ditto	83	3 4 6	ditto	57	4 1 0
ditto	76	3 19 6	ditto	47	8 15 0
ditto	63	3 6 6	ditto	39	8 1 0
ditto	53	7 18 0	ditto	18	1 4 0
Camborne Vean	93	3 0 6	Fowey Consols	98	5 8 0
ditto	89	4 3 0	ditto	87	5 9 6
ditto	60	3 6 6	ditto	68	3 16 6
ditto	56	4 1 6	Condurrow	72	4 8 0
ditto	53	2 0 0	ditto	69	3 13 6
ditto	48	4 0 6	ditto	52	2 6 6
ditto	38	3 7 0	ditto	32	2 9 0
ditto	26	4 6 6	ditto	15	2 16 0
East Wh. Crofty	76	4 1 0	Dolcoath	63	3 8 0
ditto	73	3 15 0	ditto	50	6 9 6
ditto	65	3 19 6	ditto	45	4 13 6
ditto	52	5 12 0	ditto	43	2 10 0
ditto	41	1 16 0	South Wh. Francis	84	3 4 6
Longclose	63	4 7 6	ditto	63	3 16 6
Dudnance	54	6 1 0	ditto	53	6 12 6
Wh. Seton	84	3 19 0	East Pool	53	3 12 0
ditto	78	4 4 6	ditto	37	1 11 0
ditto	73	4 4 0	ditto	28	5 18 0
ditto	72	4 3 6	ditto	26	0 8 0
ditto	66	4 7 6	Wh. Bucketts	39	3 13 0
ditto	48	4 3 6	ditto	38	2 1 0
Tincroft	65	2 5 6	ditto	4	1 15 6
ditto	59	1 0 0	Great Michell Cons.	43	1 10 6
ditto	56	3 11 0	ditto	14	3 3 0

TOTAL PRODUCE.

North Pool	861	£3284 8 0	Fowey Consols	253	£1241 2 6
Camborne Vean	463	1617 6 6	Condurrow	240	811 13 6
East Wh. Crofty, Dudnance, Longclose	424	1807 5 6	Dolcoath	201	855 16 6
			South Wh. Francis	200	863 0 0
			East Pool	144	423 15 0
Wheal Seton	421	1743 2 0	Wh. Bucketts	81	227 7 0
Tincroft	343	968 18 0	Great Michell Cons.	57	109 13 6
South Wh. Basset	278	1351 7 0			

Average Standard £ 92 4 0 | Average Produce 7½
Average Price per ton £3 17 0
Quantity of Ore 3966 tons. | Quantity of Fine Copper, 284 tons 4 cwts.
Amount of Money £15,304 14 6
LAST SALE.—Average Standard £ 90 6 0.—Average Produce 7½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	150	£576 13 0
Vivian and Sons	999	3705 18 0
Freeman and Co.	409	1743 17 0
P. Grenfell and Sons	614	2421 3 3
Sims, Willyams, and Co.	516½	2088 1 0
Williams, Foster, and Co.	1295½	4472 19 3
Schneider and Co.	82	296 3 0
Total tons	3966	£15,304 14 6

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 828—Par Consols 350—Wheal Rodney 96—Wheal Tremayne 93—Wheal Agar 92—Wheal Jane 85—Wheal Prosper 52—North Wheal Basset 52—Wellington Mines 50—Great Work 42—Gwinear Consols 18—Trenance Mines 15.—Total, 1773 tons.

NO SALE on Thursday week, June 15.

COPPER ORES.

Sampled May 10, and Sold at Swansea, June 1, 1848.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	111	14½	£9 1 0	Cuba	35	23½	£14 12 6
ditto	81	14½	9 3 0	ditto	30	22½	14 1 0
ditto	79	14½	9 3 0	ditto	25	23½	14 10 6
ditto	75	22½	14 4 6	Berehaven	122	10½	6 7 0
ditto	65	22½	13 15 6	ditto	120	10	5 17 0
ditto	61	22½	13 10 6	ditto	106	10½	6 2 0
ditto	56	17	10 12 0	ditto	102	10½	6 6 0
ditto	23	22½	13 12 6	Knockmahon	118	6½	3 16 0
ditto	101	14½	9 4 0	ditto	103	9½	5 12 6
ditto	96	15	9 8 6	ditto	81	7½	4 5 0
ditto	90	15	9 9 0	ditto	66	10½	6 8 6
ditto	78	14½	9 4 0	ditto	59	3½	1 13 6
ditto	83	23½	14 6 6	Santiago	75	22½	14 5 0
ditto	79	22½	13 10 0	Glasgow Slag	54	3½	1 5 0
ditto	41	22½	13 10 0	Holyford	44	26½	17 3 0
ditto	21	24½	14 19 0	Derrycahan	43	7½	4 4 0
Cuba	122	12½	7 16 0	Vine Slag	22	3½	1 7 0
ditto	120	12½	7 13 0	ditto	11	3½	1 7 0
ditto	112	12½	7 13 0	Aberdovey	22	11½	6 10 6
ditto	53	12½	7 12 0	Llanidloes	6	10½	5 5 6
ditto	117	12	7 9 6	Kapunda	28	21	12 18 0
ditto	116	12½	7 9 0	ditto	21	24½	14 19 0
ditto	65	23½	14 9 0	ditto	11	33½	20 6 6
ditto	56	23½	14 4 0				

TOTAL PRODUCE.

Cobre	1140	£12687 16 6	Holyford	44	£754 12 0
Cuba	851	7898 18 0	Derrycahan	43	180 12 0
Berehaven	450	2765 18 0	Vine Slag	33	44 11 0
Knockmahon	427	1894 18 0	Aberdovey	22	143 11 0
Santiago	75	1068 15 0	Llanidloes	6	37 13 0
Glasgow Slag	54	67 10 0	Kapunda	60	898 14 6

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	118	£323 0 6
Freeman and Co.	219	1512 15 6
P. Grenfell and Sons	291	3413 7 6
Sims, Willyams, and Co.	167	2095 13 0
Vivian and Sons	1119	8808 12 6
Williams, Foster, and Co.	971	7990 5 6
Mines Royal	56	593 12 0
Schneider	124	1743 18 0
Smith	140	1962 5 0
Total tons	3205	£28,443 9 6

Copper ores for sale June 15.—Cobre 113, ditto 106, ditto 100, ditto 99, ditto 90.—Burra Burra 67, ditto 65, ditto 58, ditto 50.—Kapunda 45, ditto 24.—Berehaven 113.—Cuba 71, ditto 40.—Ballymurtagh 54, ditto 50.—Burra Burra 52, ditto 46.—Montacute 40, ditto 36, ditto 17.—Gurtavallig 87.—Total quantity for sale, 1428 tons.

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANSELL, as acting for the proprietors.

"A Patentee" will find a notice of Mr. G. Henton's recent improvements in locomotive engines in the Journal of the 13th inst.

"Paris."—Yes.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, JUNE 3, 1848.

The report of the Commissioners of Railways, recently issued, contains 223 pages, on opening of new lines, accidents, bye-laws, cheap trains, statistics, returns, &c., with an Appendix. On opening new lines, it appears that, during the years 1846 and 1847, a large addition was made to the extent of railways for traffic; 2441 miles were available in 1845, 595 miles were opened in 1846, and 780 miles in 1847—making the whole extent opened, up to the end of 1847, 3816 miles, of which, in England, there were 3157; Scotland, 440; Ireland, 219 miles. The commissioners entered on their duties in November, 1846, between which period, and the end of 1847, they were called upon to inspect, previous to opening, in 100 cases, 94 of which occurred in the latter year; the opening was postponed, from the lines not being properly constructed, in 21 cases, and in 40 cases the speed was restricted for a time, to secure the public safety. In some cases it appeared alterations had been made in the gradients from those expressed in the Acts of Parliament; and in one, the Waterford and Kilkenny, Capt. SIMMONS, in his report, states that the gradients do not agree with the Act, and that the surface of the ground is now entirely different from that on the Parliamentary section. From a statistical table, it appears that in 1843 there were opened 1857 miles, and the total amount received for passengers and goods was 4,555,189*l.*; in 1844, 1952 miles, and 5,047,674*l.*; in 1845, 2148 miles, and 6,209,714*l.*; in 1846, 2441 miles, and 7,565,569*l.*; and in 1847, 3816 miles, and 8,510,886*l.* From a table relating to the financial transactions of railway companies we find, that previous to December 31, 1843, the capital actually raised was 65,530,792*l.*; during 1844, 6,820,775*l.*; 1845, 16,129,809*l.*; 1846, 37,814,993*l.*; and 1847, 41,025,487*l.*—making a total capital raised of 167,321,856*l.*

Of the above sums, a considerable portion had been derived from the returns made by the companies. It is assumed that, at the end of 1847, all the lines authorised, previously to 1844, were completed; of 805 miles sanctioned in that year, 665 miles were open, and the remainder in operation. In 1845, there were authorised 2700 miles, of which 786 were completed; and of 4538 miles authorised in 1846, 84 were finished. From these data, the commissioners estimate that usually railways, granted in any sessions of Parliament, are completed in 4½ years from the end of such session; less than one-fifth, require more than 3½ years; nearly half take, from 2½ to 3½ years; and the remainder, less than 2½ years for completion. Had it not been for the monetary difficulties which occurred in 1847, it is estimated that the expenditure in that year, for constructing lines granted in that and three previous years, would have been 64,000,000*l.*—instead of which not more than 41,000,000*l.* were raised for those purposes during the year, at which rate it will require four years for the directors to obtain the capital now authorised. This rate of expenditure maintained, and the capital proving sufficient for their completion, 2000 miles may be expected to be annually finished during the next four years. Notwithstanding, we think this a bold estimate, we look forward with great confidence to a general improvement from the beneficial effects of a favourable harvest: the soil is the great storehouse of the world's wealth; and if we gather the fruits as plenteously as present appearances justify us in expecting, the dew of such a blessing will distil itself on all the parched and languishing departments of our industry.

We are in some measure surprised that railways, considering the ease which has, for some time, pervaded the higher money circles, have not attracted more public patronage and interest. It is evident, from the returns, that there has been no abatement in their productiveness, nor, consequently, in the dividends they have been able to pay; the internal carrying trade of the kingdom was never, perhaps, on the whole, more prosperous.

We are indebted to a correspondent, for having our attention drawn to a clause introduced into the Bill, which has been read a third time in the House of Commons, for the more ready application of the law, as affects Joint-Stock Companies. On a reference to the proceedings, which were only partially reported, and the clause under notice, not even mentioned by the greater portion of the press, it will be seen, that Mr. WYLD, the Member for Bodmin, and who is, we believe, largely interested in mining advertisers, brought forward the following rider, or clause, and which now forms a component part of the Bill, as sent up to the House of Lords. The following are the terms, or words, in which it is couched:—"And be it enacted, that all associations, or companies, formed for working *Mines or Minerals*, shall be liable to the operations of this Act." Our correspondent has so well treated the subject, that we feel it only necessary to direct attention to his letter—briefly remarking on the importance to be attached to the passing of the measure, should it, in its present form, be carried through the Upper House.

It will be remembered, that on the Joint-Stock Companies' Registration Bill being introduced into the House of Commons, or in the course of its stages, a clause was introduced by Sir CHARLES LEMON, or other of the Cornish Members, which forms the 64th in the Act, as printed, to the effect—that nothing in the Act should be construed as applying to, or in any way affecting, mines worked upon the system, known as the Cost-book Principle. The value and importance to be attached to a clause of this nature is self-apparent; inasmuch, that had not the exception been made, the Act would have applied to the working of mines, and subjected the adventurers—not only to the inconvenience and annoyance attendant upon the observance of the rules, applying to the Joint-Stock Companies' Registration Act, but been furthermore costly, from the stamp necessary to all transfers; while the exemption, in the clause referred to, was intended for the protection and encouragement of mining enterprise. It is quite clear, if the rider, or clause, appended by Mr. WYLD, and which now forms part of the Bill, as sent up to the House of Lords, be not struck out, that there is an end to the Cost-book System; as this being an amended Act, will, we presume, render the 64th clause, in that first passed, nugatory; and hence, the general clauses of that Act would come in force, and thus destroy the intentions of the Legislature.

That such a measure should have been introduced by Mr. WYLD—who, we are well aware, is familiar with mining pursuits, and the laws appertaining to them—is to us a matter of surprise, and, indeed, requires explanation; for we can hardly imagine a Cornish constituency, but more especially one connected with the mining interests—and to which, we believe, the honourable Member was mainly indebted for his return—would again give their votes in favour of a gentleman whose acts, at least in the present instance, are calculated to be so destructive and injurious to mining enterprise. We hailed the election of the honourable gentleman with pleasure; as we considered, from his intimate knowledge of mining concerns, and connected with the county as an adventurer, we had acquired an addition to the Parliamentary strength in support of the mining

interest; but, it would now appear, that we were wrong in the conclusions at which we had arrived.

Our correspondent very properly remarks on the present state of mining enterprise, and the low standard; while he very naturally asks, where were the Cornish Members, and, more especially, those for Truro, "who lay claim to the especial duty of watching over, and protecting our mining interests," when such a measure was proposed and assented to by Government? We believe Mr. E. TURNER, the Liberal Member for Truro, was present, or, at least, took part in the discussion, immediately preceding the third reading of the bill under notice—so that it is to be presumed the Members were not absent in person, if they may be said to have been so in duty. In thus remarking on the letter of our correspondent, and the course pursued by Mr. WYLD, we concur in the hope expressed, that the Earl of FALMOUTH will do his duty in the House of Lords as the protector of the Cornish miner and adventurer, by causing the rider, or clause, to be expunged; while we advise those interested to take such measures in the meantime, as they may deem most prudent and applicable to the circumstances, either by petition, or otherwise, whereby the evil we contemplate may be averted. Most cheerfully shall we render every assistance, and we sincerely trust that an appeal to her MAJESTY'S Government, which will be presented in the coming week, will have the desired effect.

We have received a letter, couched in courteous terms, from the secretary of the WHEAL CURTIS MINING COMPANY, directing attention to the affairs of the company, which he considers we were wrong in characterising as a bankrupt concern, as the liabilities which existed "on the 18th May, 1847, when the company was formed, the accounts then presented showed as amounting to the sum of of 3200*l.*—while the mine has been worked for twelve months, and the costs paid to December, and, moreover, the debt reduced to 2000*l.*, which, but for the default of two individuals, would all have been paid." This explanation is due to the directors and to the adventurers, inasmuch that, without any intent on our part to convey any misrepresentation of the real state of matters, it might have been assumed that the concern was retrograding. However, let us see how the matter really stands.

On the 18th May, 1847, the mine was in debt 3200*l.*; and this at the time, as the secretary states, that "the first meeting of the shareholders was held, and the company was formed." Now, without referring particularly to dates, we will content ourselves by assuming, that the company was not in existence, or scrip issued, antecedent to the period named, when we presume the adventure became provisionally registered under the Joint-Stock Companies' Registration Act, and was legally established. It would then appear that, at the time of the company being formed, the existing liabilities amounted to 3200*l.*, and that calls have been made on the shares, 5000 in number, of 3*l.* 10s. per share, or 17,500*l.*, less defalcations, 3700*l.*—leaving the amount received, 13,800*l.*, or thereabouts, with which sum the mine has been worked, and about 1200*l.* of liabilities paid off—the present debt owing to the mine for labour cost, materials, and directors' attendances, *cum multis aliis* charges, being about 2000*l.*, which must needs be liquidated, either by a further call on the shares, or the sale of the materials. On referring to the Journal of last week, it will be seen that we gave a brief report of the proceedings at the meeting, held on the 25th ult., with which no fault is found—the only complaint being that, in some remarks made upon the observance, or non-observance, of the Cost-book System, we animadverted on this particular company, as being conducted under the Joint-Stock Companies' Registration Act. As we have never been advocates for the adoption of this piece of legislative wisdom, as applied to mining adventures, which can be managed so economically, and so correctly, on the Cost-book System, we did feel warranted in holding up this company as an illustration of the absence of any or all security, by working under the Act. We observed, that "the mine has been abandoned, or, at least, all the workings have been discontinued, and the agents and workmen scattered to the winds, without the 'Joint-Stock Registration' adventurers knowing one word about the matter." "Could such a thing (we asked) have been done by 'directors' under the Cost-book System?" We contend not. Such were the expressions conveyed in our last Number, and we repeat them with confidence, feeling perfectly satisfied, that where the Cost-book Principle is strictly observed, such defalcations as those cited, or liabilities being allowed to exist, or debts contracted, could never have taken place—periodical meetings would have been held, the accounts would have been submitted, calls made, and proceedings instituted, for their recovery in the Stannary Court. In the present instance, however, the shareholders think themselves better protected by the Joint-Stock Companies' Registration Act, and which, it appears, enables the directors to incur debts, make calls, dismiss the agents, suspend the working of the mine, raise the materials, and dispose of them if they think fit, call meetings of the shareholders when they think fit, or act without consulting them—who, in fact, are vested with the entire control of the affairs of the company, and the appropriation of its moneys, without any check, but that afforded by an annual meeting of the shareholders. Such is one of the results of the application of the new, but not approved, system of working mines.

In thus remarking on the proceedings of the company, we wish it to be clearly understood, we do not apply our observations, nor do we wish them to be construed, as affecting the character of any one gentleman connected with the management; nor does it either apply to the merits of the mine. Of the latter, we believe there is but one opinion, which is generally entertained—that of its value, if properly and economically worked, with an adequate capital. Most clear it is, however, that the management are not competent to the task; they have been deceived—and, to use a vulgar expression, "humbugged." They, we admit, knew no better; but in such case, we would ask—however honest and well-intentioned they may be—are they fit men to direct the affairs of a mine, and to control the expenditure of thousands? We doubt not but that the mine will be yet worked profitably: it is not the mine, or the men, we would condemn, but the measures which have been resorted to, and the apparent absence of all tact, or mining knowledge. We might cite many instances presented at the late meeting, but are disposed, under the circumstances, let them down "easy."

We have never very cordially concurred either in the policy or the expediency of emigration, as a substantive measure for lightening what may be called the population pressure of these islands. Notwithstanding, when we came to look, in the best manner we were able, into the actual elements of the question, as well as into our own impressions in respect of them, it was apparent, that the objections rested more on the particular course which emigration from these shores was likely to take, than upon the remedy itself, considered as an independent effort to lower the surplus supply of labour in the markets of the United Kingdom. Our impression was, that nine-tenths of the stream, having hitherto set in upon the shores, and been absorbed by the United States of America, it would be the unsoundest of all imaginable policy, on our parts, to widen, or deepen, or strengthen that flood, which was calculated to enrich with the skilled labour, to fertilise with our proficiency in the agricultural, the mechanical, and the manufacturing arts, a country which is our competitor in every markets of the known world, and whose flag flashes side by side with our own, throughout every latitude, and in every breeze. The States of the American Union are what they are, partly by the perpetrated annual infusion into their polity and commonwealth of the active children of this ancient and heroic soil: their strength in arms, and their skill in arts, has been recruited year by year from the overflowing vigour, in each department, of the population of these islands. It is, therefore, to emigration so directed, that our objections must be understood as applying; and if the flood should continue to flow westward, and fall upon the same points, will ultimately tend to us a fearful lesson of the inexpediency and impolicy of our conduct. But all the great aspects of the case are materially changed, if, by the interference of the Imperial Government, and a liberal and remunerative scheme of colonisation, the efflux of our skilled citizens is made to take a more southerly direction, and so directed as to fall upon the gushing and unessayed shores of the Australias, or upon the more south-western districts of that empire, which we are building up in the great Pacific; there they will continue beneath the shelter of those laws, and the shadow of that flag, which, whatever the discontented and the disloyal may say to the contrary, have covered and consecrated to us a greater sum of public freedom, and of national prosperity, than has ever fallen to the lot of any other people, of whom there are any historical traces, or the faintest traditional reputation.

It would far overtask our present leisure to recapitulate the leading features of those outstretched lands, which, beyond the Straits of Magellan, are waiting the arrival of those bands of cultivators, by whose industry their beautiful variation of hill and valley, fountain and fresh shade, may yield occupation and wealth to those who have the resolution to make the effort, and adequate means to render it successful. With the adaptation and capacity of those districts, to support a superstructure of wealth and colonisation, we believe the public of England, the working and well-to-do public, is acquainted; and whatever in this respect is not known is easily ascertained. But it is of leading importance to have it settled before hand to what extent the Government of England will assist in a large and expansive measure of this description, and for these objects. If we can charge 8,000,000*l.* on the Consolidated Fund to be spent in eight months to fill up a mere gap in Irish destitution, surely we can charge an equal sum on the same fund to lay down the first elements of a colony, whose power and wealth may, in the lapse of a comparatively limited period, contribute to the right-hand strength and the permanent renown of the nation which sent forth and planted it. The class of persons also who are to plant the civilisation of Europe in the unpeopled solitudes of the south-western hemisphere, will call for great premeditation and careful selection. We trust it will be the sound in morals—the competent in circumstances only—who will be permitted to mingle with the brotherhood of men who go forth to found a new empire, and to create a Christian commonwealth. The dissipated, the disorderly, and the disloyal, may stay at home to people the penitentiaries and the bridewells of the old state. A virgin colony would be contaminated by the example, and the possible contagion of their vices. The persons needed for this noble enterprise are those who feel an inward pride in their British origin, and who, whenever in the course of Providence they take up their permanent home and resting-place, will enhance, as far as in them lies, the reputation and glory of the British name.

The leading novelty of the week has been the Parliamentary discussion of a Bill for the Relaxation of the Navigation Laws of the Kingdom. Our readers are aware, that the laws regulating the movements of our merchant marine were devised with a view to secure, as far as possible, the carrying trade of the world to the ships of this nation. The idea was undoubtedly perfectly intelligible, and perfectly English; but it is possible that it was also perfectly selfish, and perfectly impracticable. We have certainly thriven, as a carrying and mercantile people, concurrently with the existence and operation of these laws—but it may have been far less in consequence, than in direct spite of them, notwithstanding. This latter alternative seems to be the one adopted by the principal commercial and economical thinkers of the day; and the consequence has been the introduction of a measure, calculated, as they think, to give a far wider, a more universal development to the shipping interests of this pre-eminently maritime people.

It is not possible to bring into view, in the short space we can at present occupy, so much as the leading features of this great subject; but there is one aspect of its many forms we may content ourselves for the present with pointing out. The produce of all the colonies and dependencies of the British empire must, under these laws, be imported into this country, if imported at all, in British bottoms. The daily increasing importance of the East India, and other outlying, dependencies of the British Crown, of Canada, the two Australias, Van Diemen's Land, and New Zealand, makes it a matter of direct policy that we should facilitate the exportation of their staple produce to whatever markets it may suit them to send it. But, send where they will, they must use British vessels. The law applicable to the case preserves the carrying business of the colonies to vessels having British registers. In a thousand instances, the ships of other nations, having delivered their out-freight, must go home in ballast, as they are forbidden by law to bring to England, at any price, the wool, the tallow, the hides, or the metallic ores of her colonies. Had the latter, at any time, an option, undoubtedly it would be exercised in favour of whoever would carry cheapest; but at present they must put their goods under the protection of that flag, whose vessels are said to take the highest freights of any that stem the ocean stream.

The breaking up of this monopoly, and conferring on the struggling colonies of the empire the right of choosing and of cheapening, as far as they are able, the transit of their merchandise, will operate, indirectly, as a bounty on the chief articles of their export trade, and give additional encouragement to their magnificent, but almost unessayed, resources. At present, we shall not look further than into this one relation of the great subject—believing that, in this particular respect alone, the bill before Parliament will confer a valuable boon on the rising colonies of this great sovereignty.

A report of the half-yearly meeting of the PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY will be found in another column, at which Mr. CARLETON (one of the managing directors) stated that, "in the event of a war, the Government had a right to the company's vessels, the purchase-money to be settled by arbitration." It would thus appear that the Provisional Government of France would not be at all singular in their proposed appropriation of the French railways, should our executive take advantage of this stated right, and thus break up a company which was established on the most liberal principles and soundest basis, has paid a handsome dividend upon the capital, and been productive of an immense amount of public good. This company have claims upon the country of no common kind, instead of being threatened with spoliation and ruin. With a considerable fleet of powerful steam-ships, strongly built, manned by numerous intelligent and well-disciplined crews, and commanded by experienced officers, they would, in addition to the services they perform for the Government, in the dispatch of the mails—and for the public, in providing the most perfect accommodation for the tedious voyages necessary to reach our eastern possessions—be prepared to make them available, at the shortest notice, for the means of our national defences, should there be an occasion, and that without costing a single shilling to the country. We have little fear of there being any necessity for these fine vessels being driven from their now peaceful course of action, to encounter the perils of war; but we do trust that, should such an emergency arise, the Government will be satisfied with their gratuitous assistance, and not enforce what the statement made appears to be—their *right* to seize, and appropriate them as vessels of war.

There can be no doubt that, ere long, some great reforms must, and will take place. The recent events on the continent cannot fail to be a lesson to our rulers, to yield, before it is too late, something at least to the wants and demands of the great bulk of the people. The late Government of France placed all their confidence in the majorities they could at all times command in the Chambers; and, to the very last moment, they treated with contempt the threats of their opponents, and set at defiance any attempt to impeach their conduct: they relied, with all the conviction of a fancied strength, on the immense force they had collected in Paris, to repel any violent measures that might be adopted to wrest from them a concession to the popular wishes. We need not repeat how miserably they were deceived, and what ruin and desolation their obstinate resistance has brought upon that unhappy country. Had they, at the opening of the Chambers, in December last, but given an assurance of some immediate measures for the amelioration of the condition of the people, with a promise equally positive of taking into serious consideration the important questions which agitated the public mind, with a view of ascertaining how far changes could be effected, compatible with the safety and good of the country, in all human probability LOUIS PHILIPPE would yet have been KING OF THE FRENCH, with the pleasing prospect of being the instrument for the diffusion of much happiness and prosperity among his subjects. But, unfortunately, the representations of the people were inconsiderately and rashly condemned; and, so far from any hopes being held out to them of redress, they were positively denied any attention. In this country, happily, we live under a more liberal constitution, and enjoy the blessings of a more enlightened system of legislation. No doubt we are subject to abuses, and corruption creeps into some of our most perfect institutions; but they are no sooner discovered than the most effectual steps are taken against the offenders, and means adopted to guard against them in future. Our statesmen either know how far to resist the demands of the people, or they yield their power and authority to those who are prepared to concede to the wishes of the latter. The passing of the Reform Bill, and the more recent repeal of the Corn Laws, are remarkable instances of the truth of these remarks.

But there are public men among us who are inconsiderate enough to hazard opinions and statements, at variance with public feeling. The Duke of WELLINGTON is reported to have made use of an observation, indicative of his determined resistance to reform, which hastened the passing of the Reform Bill, in 1832, very considerably; and we cannot help regarding a similar remark of Lord JOHN RUSSELL'S on a late occasion, as calculated to give additional impulse to the exertions of those who are at present contending for further reforms. The noble lord's assertion, that the middle and working classes were not anxious for the changes proposed by Mr. HUME, must tend to advance materially the cause of the people. Already have we signs of this—in one night (Tuesday) were the Government defeated *three* times in Parliament; while the rejection of the Jew Bill in the Lords, last week, is another proof of their weakness, and of their inability to carry any measure of consequence. Such a state of things cannot last long; nor can we forget the conduct of Lord PALMERSTON with regard to Spain, and the insult which has been offered to this country through his meddling disposition; or, at all events, through the dictatorial manner in which he gave advice to that country, instead of tendering it in a more friendly and suggestive form. When we consider all these circumstances, we think it impossible for the present Government to remain in power with any degree of honour to itself, or with the slightest chance of passing beneficial measures. Not a single Act for the permanent good of the country has been introduced by Lord JOHN RUSSELL since his accession to power, notwithstanding so much is wanting, and all his boasts and promises while in opposition. Whatever faults some may attribute to Sir ROBERT PEEL, it cannot be denied, that he enjoys the general confidence of the country—a fact which is so distinctly proved, by the rapid rise of the funds, even upon the mere vague report of his being about to return to power. It is said, that the hon. baronet has prayed the QUEEN, as the greatest honour she can confer upon him, never again to send for him to form a cabinet; but we hope, ere long, to see a Government formed of the most able of his political friends, with, perhaps, Mr. GLADSTONE as Prime Minister, and then Her MAJESTY may prevail on Sir ROBERT PEEL to fill the office of President of the Council, without assuming any official cares of an onerous nature; but giving to the Government his advice and support. Such an administration is, indeed, called for by the country, as the most able to steer us safely through the present crisis in European affairs.

ASSURANCE SOCIETY FOR MINERS.

While the benefits of life assurance have been secured by the establishment of peculiar institutions, especially adapted to the particular wants and bearings of the various professions, and almost every distinct industrial interest has its own life office, by which all the advantages inherent in the system are fully developed to all, the mining interest has hitherto been left to the general insurance companies, although the very nature of the miners' occupation, and their centralisation in particular localities, would render the establishment of a Miners' Assurance Society productive of great and important advantages. We are now enabled to announce the maturity of a plan for a "Miners' Assurance Society," which we noticed in the *Mining Journal* of the 21st of August last—a society especially adapted to the members of the mining profession. Our notice of the plan was, at the time, received with warm approval, and promises of support; and would appear to have undergone much deliberation, and been canvassed, in its details, during the interval that has elapsed. It has been subjected to the most rigorous examination by experienced parties; and has, we understand, met with the most cordial approval of a large body of those most interested in its success—the miners. It is now in a state of progress, having been provisionally registered, and waits only the completion of the list of directors, who will be chosen from among the most influential of the mining world, to be formally put before the public, with a view to immediate operations. We would, therefore, direct the attention of persons connected with the mining interests of the country to the outlines of the plan, with a view that they may give the subject their early and especial consideration, so that they may be prepared at once to co-operate in its accomplishment, should it, as it can scarcely fail to do, meet their approval. The precarious station of the miner, whose income is dependent upon his labour, renders him a most eligible subject for life assurance, as it is only by its means, in case of sickness, or premature death, that his family have something to fall back upon.

In the army, and among some other professions, the evil has been partially mitigated, by the establishment of nominee societies, in which, by a small quarterly payment, annuities are secured to widows and children; nothing of the kind exists among miners, although they certainly require a provision of the kind as much, or more, than any other class. While considering a remedy for this special want, the thought suggested itself that many gentlemen in the mining world carried collectively a large amount of business to the assurance offices; and that, if they could establish for themselves their own office, and carry thither the business they now take to others, availing themselves of the profits, such provision would secure a better return to their families, in case of death, than if divided among a strange proprietary. The idea thus called forth was duly weighed, objections considered, improvements adopted, and the whole plan submitted to the consideration of the mining interests.

The society will be established on the principles of mutual assurance, as being the most economical, and the best and most legitimate mode of individual protection, embracing the following important objects:—1. By the formation of a fund, to the extent of one-tenth of the profits of the association, to be called the "Miners' Widows and Orphans' Fund," for securing annuities, for old age, to members insured, and for constituting a perpetual and increasing provision for deserving and distressed miners, and their widows and children; and towards founding and supporting charitable institutions, in connection with mining interests.—2. By affording inducements and facilities to working miners to make a provision against the infirmities of old age, sickness, or incapacity for labour, and by assuring small sums at death, on a self-supporting and safe system.—3. The interests of the assured protected by a guarantee fund of 100,000*l.*, in 5000 shares of 20*l.* each—deposit, 2*l.* per share. Experience justifies the expectation that no more will be required to be paid up. On the capital advanced, the shareholders will receive 5 per cent., and the capital will be paid off when the shareholders' proportion amounts to a sum equal to that originally invested, with 100 per cent. bonus.—4. The profits will be divided into five parts—four-fifths apportioned among the members insuring, in the form of a bonus on their policies; of the remaining fifth, one moiety, or one-tenth, of the entire profits to be appropriated to the Miners' Fund, and the residue to be invested as an accumulating fund for the extinction of the paid-up capital.

The office will transact every species of business contingent on human life, so as to offer every facility to the profession and the public, which experience may have sanctioned. General business will not be sought after—every security will be adopted for the assurers' interest—a competent and responsible directory will be formed, composed of gentlemen connected with the mining interest—and every means will be adopted to secure to the mining population, through their own instrumentality, the full development of the great advantages of life assurance—to effect which, it is desirable that as many of the shares as possible should be held by those engaged in mining operations. No more than 50 shares will be allotted to any one person, and those engaged in mining pursuits will have the preference. We believe this institution will be a great boon to the mining interest, and tend to the comforts and protection of the widow and orphan, while it has claims on the support of the lords and adventurers, including the duchy, the lord warden, and others associated with mining adventures. By an institution of this nature, the union of wealth with industry is accomplished, and a proud example set forth—not only worthy of being followed, but which is well calculated to bind the employer and employed—the former by acts of grace and kindly feeling, and the latter by those of gratitude for the kindness shown them.

DUTY ON COPPER ORES.—In the House of Commons, on Thursday evening Mr. WYLD asked the right hon. the President of the Board of Trade, whether it was true that a large quantity of copper ore had recently been admitted at 1s. duty?—Mr. LABOUCHERE remarked, that it would be very convenient if, upon matters connected with trade as well as other subjects, hon. Members would give notice of the questions which they intended to put. He had no knowledge of the fact himself, but he could state that it was the general practice, whenever the House had affirmed a resolution upon which a bill was to be founded for a remission of duty, that parties were allowed to enter their goods at the lower rate of duty, upon giving security that they would pay the higher duties if the bill should not pass through Parliament. He had no reason to suppose that a different course had been followed in this instance.—Mr. WYLD said he should move the adjournment of the House, for the sake of offering an observation or two upon this subject, which was a most important matter to many persons who were connected with the county of Cornwall. He understood that 2,000 tons of copper ore had been brought to this country within the last two or three months, and he thought it most unfair that this large importation should be admitted at the reduced rate of duty. The motion for adjournment was understood to be withdrawn, and the conversation on the subject terminated.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

From the usual returns of imports and exports, just published by the Board of Customs, it appears that there has been a woful falling off in both during the month of April last; and among the articles which have suffered are, I regret to state, those which fall within the province of the *Mining Journal*. Still England has, after all, the consolation, such as it is, of not having suffered to so great an extent as its rival Belgium. The imports of coal stand as follows:—

	April, 1848.	April, 1847.	April, 1846.
From England	348,621*	462,586	656,082
Belgium	499,763	1,462,163	934,545
German Commercial Asso.	47,206	187,749	179,993
Other places	26	26	1,434
Total	895,016	2,112,523	1,772,034

During the first four months of 1848 the import was 4,809,511 met. quint.; same period of 1847, 6,296,244; and of 1846, 5,827,256.

The imports of cast-iron for April 1848, 1847, and 1846, were:—

	April, 1848.	April, 1847.	April, 1846.
From England	10,089	29,493	46,441
Belgium	10,784	42,708	43,325
Other places	908	3,468	6,434
Total	21,791	75,669	98,200

The imports for the first four months of each of the three years were—260,728 in 1848; 320,134 in 1847; and 250,081 in 1846.

The imports of copper, in April, were—

	1848.	1847.	1846.
From England	23	8269	3368
Chili	—	1808	141
Other places	3266	1206	677
Total	3289	9283	4126

In tin, the imports were 37 met. quint. in April last; 714 in April, 1847; and 1191 in the same month of 1846. Of lead, 14,348 in 1848; 16,350 in 1847; 15.049 in 1846;—zinc, 2725 in April, 1848; 13,563 in 1847; and 7969 in 1846.

These returns tell their own tale, and not a word of comment is necessary. The falling off in the import duties is frightful. In the first four months of 1848, there were only received 26,786,968 fr.; whilst, in the same period of 1847, there were 43,720,267 fr.; and of 1846,48,946,487 fr.

It is somewhat singular that, whilst the imports have fallen off so fearfully, the exports of machines, &c.—the only articles of French export which have any connection with your Journal—have suffered comparatively little. In the month of April last, they amounted to 514,499 fr.; same month of 1847, 640,194 fr.; of 1846, 591,743 fr.

On the 1st July the Marine Department will receive contracts for the supply of considerable quantities of different descriptions of copper, for Cherbourg; and, on the 24th June, of large quantities of copper for Lorient.

Commercial matters here are about as bad as they can be, and serious apprehensions are entertained that they will become worse. This was foreseen by the farsighted from the first; but people hope that it will only be of temporary duration.

You will see, from the reports in the newspapers, that the railway companies have held meetings, at which the shareholders have shown a most decided spirit of hostility to the Government scheme, for getting the lines into its own hands. What is of more importance is, that a committee of the Assembly, to which the project was referred, is strongly opposed to it, and will, it is believed, report against it. Well-informed persons now entertain a confident belief, that the measure will be rejected by the Assembly.

The accounts from the coal and iron districts are not important—little activity and some disturbances—that is all. The St. Etienne folk are not so absorbed with matters political, as to refrain from crying down, what they still call, the monopoly of the Loire Company. At the great *fête* the other day at Paris, every great town, and every department, were represented by deputations with banners, bearing the inscription—"Liberty, Equality, Fraternity;" but the St. Etienne flag bore on it—"Down with the Coal Monopoly!"

The Board of direction of the Grande Montagne have advertised the number of the shares on which the last call of one-fourth, due Feb. 1, has not been paid, and have notified that these shares will be sold on the Bourse, if the call be not paid forthwith.—*Paris, Thursday.*

SILVER MINING IN SPAIN.

In our Journal of the 22d of April, we alluded to the production of silver in the district of Sierra Almagrera, in Murcia; at the same time we gave statistical tables of the returns for the months of Jan. and Feb., in the current year. The principal quantity of silver is obtained from the mine of Jaroso. During the last month the Government of Spain has published an account of the total production of silver for the seven years ending Dec., 1847; as this, no doubt, is an object of interest to many of our readers, we insert the total produce of the different works:—

Names of the Works.	Situation.	Marks	oz.
Contra Vientoy Marea	Termino de Cuevas	16,465	5
San José	Aguilas	64,742	0
La Union	Ditto	28,588	6
San Ramon	Vera	192,961	0
La Aurora	Aguilas	2,278	2
Virgen del Pilar	Ditto	52,995	0
Regeneradora	Mazarron	1,614	0
Encarnacion	Cuevas	31,480	5
La Constancia	Aguilas	9,029	1
Virgen del Rosario	Lovca	402	1
Franco Espanola	Carthagena	16,894	2
Madrilena	Cuevas	63,693	7
Carmelita	Ditto	74,286	0
Esperanza	Ditto	55,682	1
San Isidoro	Carthagena	7,353	0
Santa Rosalia	Cuevas	374	0
San Jorge	Carthagena	77,412	6
Carthagenera	Ditto	980	4
Constancia	Ditto	6,055	2
Iberia	Aguilas	9,706	0
Espanola	Carthagena	1,298	0
Pobres de Hueicar	Vera	124	0
Santa Adelaida	Carthagena	13,827	3
Constancia Cantagenera	Ditto	133	4
Taval	Cuevas	1,188	3
Encantada	Ditto	14	6
Orcelitana	Carthagena	4,779	4
Conception	Vera	18,002	2
Tres Amigos	Ditto	571	0

Total production, 752,926 mks. 3 ozs., of the value of 138,538,453 reals, equal to about £1,443,109 sterling.

From the above table it will be seen, that, although, on the whole, a large amount of silver has been obtained, the quantity produced at the different works has varied very considerably in the succeeding years; as, for instance, the Constancia, of Carthagena, which produced, in the year 1846, 1852 marks, in the following year produced but 52 marks. One work, the Encantada, during the whole seven years, has produced but 14 marks; from what cause these apparent discrepancies arise, we are, at the present time, unable to say.

INLAYING AND COATING METALS.—A patent has been taken out in England, by M. C. M. T. Du Motay, of Paris, for improvements in inlaying and coating metals with various substances. The mode of operation is, in the first place, to produce the required design, such as arabesques, ornaments, letters, figures, or drawings of any description, either in intaglio, or relief, upon the metal to be ornamented, being either lead, zinc, tin, iron, steel, copper, silver, gold, platinum, or any alloys, or compounds of the same, or any hard substance upon which metals can be deposited, such as fine hard stone, marble, jasper, porphyry, porcelain, ivory, mother of pearl, shell, bone, horn, wood, and various other substances. This may be effected either by casting, stereotyping, or moulding, by stamping, cutting, or engraving, or by biting in with acids, the design being traced through engraver's varnish, wax, shellac, or other like substance. The substance thus prepared is placed in an electro bath, of the metal to be deposited; and when the hollows are filled, the surface is rubbed down and polished. When a design is required on both sides of an object, thin metal is stamped in dies, forming a relief on one side, and intaglio on the other—so that, if a sheet of silver, for example, be immersed in a bath of gold, a pattern will be produced, on one side silver ground and gold design; on the other, gold ground with silver patterns.

COAL-LADEN SHIPS.—A return moved for by Mr. Wawn shows that the total number of English ships laden with coal, cinders, and culm that entered inwards in the year 1847, amounted to 7781, carrying 1,548,582 tons of coal; and the number of foreign ships to 6533, carrying 827,023 tons of coal.

* In metrical quintals (10 to the ton).

ELECTRICITY, AS APPLIED TO TELEGRAPHIC PURPOSES.

On Wednesday evening last, at the Royal College of Chemistry, Dr. Ryan delivered a lecture on the above subject, to a full and attentive audience. He introduced his lecture, by observing—that electricity could no longer be considered an abstract, or separate science; as, during the past few years, every discovery had proved that the whole phenomena were the results of chemical action, and must, therefore, be considered a branch of the science of chemistry. In treating on this subject, the investigations into which had presented so many advantages to civilised life, particularly as to rapid means of communication and its results, he should have to consider it under four different heads:—1. Those telegraphs which had to be worked by free or frictional electricity.—2. Those employing a current of electricity from a voltaic battery.—3. Those which are worked by electro-magnetism, induced by a voltaic battery.—4. Those being operated on by magneto-electricity.—Dr. Ryan then alluded to the process of obtaining a current of frictional electricity, by rubbing glass, shellac, sealing-wax, &c., so well known as to require no repetition; he then went into some statistical data, as to the progress of electric telegraphs. In 1744, the Germans employed this electricity in striking bells; in 1746, Granarth gave a shock to 20 persons at a great distance; Winkler and Monin passed a current through 4000 feet of wire, the water in the basin of the Tuileries forming part of the circuit; in 1746, the celebrated Dr. Walker passed a current through eight miles of wire; and, in 1778, Franklin, in America, set fire to spirits of wine at a distance, the conductor passing through the river. In 1787, Lomonde, in France, constructed a telegraph, by the aid of an electroscope at the end of the conductor, to be communicated with, in which two pith balls covered each of the letters of the alphabet. On completing the circuit at one end with any particular letter, the pith balls were repelled, and opening asunder, showed a similar letter at the other end, and thus gave a means of communication; and, in 1793, the luminosity of electricity, on tin-foil letters, was proposed for telegraphic purposes. In 1798, Dr. Salva, in Spain, constructed an electric telegraph, between Madrid and Aranjuez, 26 miles, which must, at that time, have been a great and bold undertaking. The lecturer came now to the year 1800, which he described as a most important period, as it produced the investigations and correspondence between Galvani and Volta, which developed the properties of electricity from a metallic battery, and has immortalised their names. The difference between frictional and galvanic or voltaic electricity, was one of the most interesting considerations in natural philosophy. In 1803, Bassi passed a current of voltaic electricity through 4000 feet of water; in 1809, Summering constructed a telegraph on the principle of the powers of voltaic currents in decomposing water; he had a number of small glass tubes inverted over a pneumatic trough, and representing the several letters of the alphabet, or conventional signs; and, on completing the circuit, the water immediately sinking in any tube, showed the letter, or sign, communicated, which was easily and quickly read off. In 1813, Ronalds, of Hammersmith, constructed a telegraph by galvanism, through coils of eight miles of wire, a description of which he published at the time. In 1817, the celebrated Wedgwood also formed a voltaic telegraph; but no description of it appears to be extant. Soon after this, Oersted, of Copenhagen, and Ampere, discovered the properties of this electricity, in deflecting the magnetic needle from the magnetic meridian to a position due east and west, or at right angles with it; and which point has been considered by some electricians as the true magnetic meridian. This laid the foundation for the several systems of telegraphic communication which he should then proceed to describe; and, in 1837, Professor Wheatstone had greatly improved his telegraph by reducing the number of needles to five, which have since been reduced to two. The lecturer then proceeded to describe the various modes of communication adopted by Bain, Wheatstone, Brett and Little, and Gamble and Nott, the latter of which worked entirely by electro-magnetism. These have been so often noticed in our columns, and elsewhere, as not to require repetition. He observed, that he trusted his audience would not consider that he was attempting to hold up to public favour any particular telegraph; his object was nothing invidious, but to describe the philosophy of the several operations; still there was an advantage in Brett and Little's plan, from the circumstance of employing only one wire through any number of stations, the earth forming part of the circuit; while Wheatstone's had a distinct wire to every principal station, which not only caused complexity, but greatly tended to divert the regularity of the current; the advantages obtained by one wire also applied to Gamble and Nott's. Brett's printing telegraph was also worked, and several words printed off with great regularity. Dr. Ryan then described the difference between electro-magnetism and magneto-electricity—the former being magnetism in iron, induced by a current of voltaic electricity; the latter, a current of electricity, induced by the rapid revolution of an iron armature, near the ends of a fixed magnet. A very continuous and regular current of this could be obtained; and a Mr. Page, in America, had constructed a printing telegraph by its means. An apparatus was shown, which by turning a winch, in connection with a system of multiplying wheels, the armature was made to revolve with great rapidity, and the electric spark obtained sufficiently powerful to ignite ether. The lecture lasted upwards of an hour and a-half, and was listened to with the greatest attention and interest.

COMMUNICATION BETWEEN GUARDS AND DRIVERS.—A patent has been secured by Mr. G. Wells, of Walworth, for a means of communicating between the guard and engine-driver of railway trains. It consists of a vertical cylinder, formed of two lengths, fixed to the side of the guard's carriage, in which is fixed a diaphragm, of vulcanised India-rubber, secured between the flanges of the two cylinders, when bolted together. This diaphragm is connected to the bottom of a piston-rod, working through a stuffing-box, to which a reciprocating motion is given by means of a crank, or eccentric, worked by a winch handle. There is a valve opening inwards to the cylinder, both above and below the diaphragm, and two corresponding outlet valves, communicating with a tube, at the end of which is a powerful whistle. On turning the handle with rapidity, a powerful current of air will be driven through the tube, producing a loud and audible signal above the noise of the train.

RAILWAYS IN AUSTRALASIA.—Advices from New South Wales state, that the subject of railways in the colonies was causing increased interest. The proposed line between Sydney and Goulburn had been surveyed, a length of 132 miles, and the cost of construction estimated at 2100*l.* per mile. The majority of the colonists are fully prepared for railway transit, and all are agreed that it is highly necessary for the interests of society that they should progress with the times, by adopting every improvement for economising time, labour, and capital.

CHURNET VALLEY RAILWAY.—The works on this line between Uttoxeter and Burton-on-Trent are making great progress, the excavations and embankments being in a great measure completed; the greatest portion remaining to be done is at Stretton Hill, near Burton-on-Trent. The permanent rails on a great part of the line near Tutbury, Scropton, &c., are already laid and ready for use. Engines will immediately be put on the line to expedite the works, and it is understood that this part of the Churnet Valley line—that is, between Uttoxeter and Burton-on-Trent—will be opened during the present summer, in connection with the line from Uttoxeter to the potteries.—*Derby Reporter.*

EXPERIMENTAL TRIP ON A 1 IN 40 RAILWAY GRADIENT.—On Saturday, two of the directors of the East Lancashire line (Mr. T. Wrigley and Mr. Kay), with Mr. Harking, the manager, and Mr. Perring, the engineer, made an experimental trip with their new engine, *Goliah*, manufactured by Mr. Fairbairn, of Manchester, over a portion of new line about to be opened in a week or two. The first portion of the new line they traversed was one of nine miles long, from Blackburn to Bentley Wood. They had attached to the engine 10 carriages, containing about 400 visitors from Blackburn Church and Accrington, and after receiving an accession of passengers at Bentley-wood, they ascended the inclined plane from Accrington to the summit of the line at Haslingden. The incline is 1 in 40, and was for a long time held by railway people to be impracticable of ascent; but the engine effected the ascent with ease, and the directors and engineer were of opinion, from this experiment, that this portion of the line could be as efficiently worked for general traffic as any portion of the railway. The train returned to Blackburn without any mishap.

SWINDON RAILWAY STATION.—The Swindon refreshment rooms, on the line of the Great Western Railway, held for a term of 99 years from the company, at an annual rent of 1*d.*, were sold on Wednesday last, by public auction, at Garraway's, by Alderman Farebrother, for 20,000*l.*

RAILWAY CALLS.—From the list of railway calls for the month of June, the total, 1,712,250*l.*, shows a reduction of 1,934,109*l.*, as compared with the corresponding month of 1847, when it was 3,646,362*l.* This diminution, however, is not caused in any important degree by a contraction of expenditure on English lines. In June last year, the calls by foreign companies amounted to 1,550,000*l.*, while they now only reach 93,900*l.*, so that the home expenditure during the present month will be 1,618,350*l.* against 2,096,362*l.* at that period.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Rotterdam, 11,700 ounces; ditto Belgium, 4000; ditto Havre, 2000—Silver bars to Rotterdam, 42,200; ditto Belgium, 53,006; ditto Hamburgh, 97,000—Gold coin to Rotterdam, 14,582; ditto Hamburgh, 580; ditto Calais, 70; ditto Belgium, 725—Gold dust to Havre, 280—Platina to Calais, 225.

Original Correspondence.

MINES IN HUNGARY.

SIR,—In your valuable Journal of April 8, there is an article signed "C. E.," under the head of "Mines in Hungary," from the tenor of which, it would appear the writer is not well acquainted with the actual state of the Hungarian mines, the laws by which they are governed, and their management in general. Being desirous to erase any unfavourable impression which an erroneous statement might produce, and that the true light should appear in everything, I avail myself of your columns, to hand you a few lines as regards the actual state and government of this branch of national industry in Hungary. The mines of Hungary and Transylvania produce principally gold, silver, copper, lead, and iron.* The annual produce, according to the last official returns, amounts—

Metals.		*In Hungary.*	*In Transylvania.*
Gold	*Marcs*†	3,196	*Mcs.* 3,531
Silver		65,701	4,982
Mercury	*Centners (cwts.)*	492	*Cwts.* 40
Copper		37,446	1,062
Lead		5,935	—
Zinc		1,771	—
Blast iron		373,363	62,340
Cast ditto		28,480	462
Antimony		6,869	—
Cobalt		1,337	—
Sulphur		7,229	—
Coal		377,063	—
Total value	*Florins*‡	7,051,932	*Fl.* 1,724,232
Of which from Government mines		*Fl.* 4,290,536	*Fl.* 724,794
Private ditto		2,761,396	999,438

The laws by which these mines, whether they belong to the Crown, or to private companies, are regulated, and the duties levied, are of an ancient date, being from the year of 1573, under the reign of Maximilian II.; but a committee has been sitting during the last three years for the reform of these laws, to be proposed to the next meeting of the Hungarian Legislature. The administration of the mining and smelting establishments belonging to the Crown has been, up to the present time, confided to mining boards—viz.: at Shemnitz, Shmölnitz, Nagybánga, and at Oravieza. These mining boards exercise the superintendence over the local offices of management, and are placed, in some respect, under the superior orders of the Royal Hungarian Aulic Chamber at Ofen, but principally under the Imperial Aulic Chamber of the Mint and Mining, and Central Direction of Mining, at Vienna. The superior officers in these Chambers and Central Direction for the Hungarian Departments, in whose authority the technical and judicial part of the administration is entrusted, are Hungarians, particularly educated for this branch of business, and well acquainted with the subject and local circumstances of the mines and smelting-works. It may, therefore, be presumed, that these undertakings are directed judiciously, on scientific and economical principles.

The ores of these mines, with the exception of some gold mines in Transylvania (in the possession of private companies and individuals), are generally of a low standard; very few of these would pay working in England; and even in Hungary, where labour is cheap, several of these mines are worked only with a view to their future productiveness, although, for the present, with considerable loss—for instance, the mines of Kremnitz, during the last five years, had incurred a loss to Government of from 30,000 to 80,000 florins annually.

Some of the works carried on in these districts, particularly at Shemnitz and Kremnitz, in Lower Hungary, are of an immense extent. In the former place there is a deep adit, called Joseph II., commenced 1782, still in progress, upwards of 7000 fms. in length, with numerous side adits and cross-cuts, the cost of which amounts nearly to 3,000,000 florins. This adit is to drain and lay open backs from 250 to 270 fms. in height. Similar adits are being executed at Kremnitz (the Ferdinand's adit), and at Magurea (the Stephen's adit), of 6000 and 2000 fms. in length; for the former, there are allowed 30,000 florins annually towards its speedy completion. The mining operations are carried on with system and regularity, and there is nowhere to be found that objectionable practice—the so-called "picking out the eyes" of the mine. The preparatory works—viz.: opening levels and cross-cuts, sinking shafts, winzes, &c.—are generally carried on some years in advance of the stoping of backs and bottoms, for raising ore and stuff for the stamps. At a single mine establishment at Shemnitz, called the "Oberlieber Stollen," there are already laid open, in backs and bottoms, to the amount of 289,601,000 cwts.§ of auriferous silver ore for the stamps, estimated at a value of 76,669,500 florins; and at the time the deep adit (Joseph II.) is completed, a further supply of stamping ore will have been laid open, amounting to 120,219,000 cwts., containing a value of 26,270,600 florins. Regarding the extent of the underground works in the mining district of Lower Hungary, we may only judge from the extent of levels, cross-cuts, and shafts, at present kept open, and in a serviceable state—they compute the length at nearly 50 geographical German miles, making 230 English statute miles!

At Shemnitz, there is a Mining College for the education of officers of State in the mining department, and other individuals, for the employment in private mines; and even foreigners are admitted free of all charges. This college, having been established in the reign of the Empress Maria Theresa, is sustained by the Government of Austria, to which the country of Hungary in no way contributes, although the greater number of pupils attending this college are Hungarians, and subsequently employed at the Hungarian establishments. Near Oravieza, in the Banat, the opening of extensive coal mines, and the erection of large iron-works and a railroad to the Danube, of about nine German miles, estimated at 3,000,000 of florins, are in progress, solely contemplated by the Austrian Government, in order to supply the Hungarian railroads and the Danube steam navigation with iron and fuel, by which means to promote and facilitate the internal communication of that kingdom.

From this brief sketch, you will perceive, that your correspondent, "C. E.," has been rather forward in advancing, that the working of the mines in Hungary had been neglected, and the Hungarians kept in a state of barbarism by Austria. The formation of mining companies in Hungary, whether foreign or native, and the working of mines by such, is not prohibited by the existing mining laws. The reason why so little enterprise of this sort with joined capitals has hitherto been manifested, is, therefore, not in the law, or in an arbitrary execution of it, by the Austrian Government; on the contrary, the latter has always gladly promoted the formation of such companies—being aware that, by their enterprise and the duty on the produce, not only the revenue of the State beneficially gains, but the capital is put in circulation in the country, and thereby benefits the community at large. The truth, however, is, that private mining in Hungary has not been more fully developed by the application of joined and foreign capital, from the peculiar state of these mining districts, where the inhabitants, chiefly adventurers, themselves used to prevent, by all possible means, strangers—even Austrians—from entering into mining speculation, in which they are ardently supported by the local authorities. It is well known, that parties, who had bought mining property, and embarked in preparatory works upwards of 30,000 florins, had been annoyed in every way, and, ultimately, driven by force from their operations. Until these evils are effectually removed, and security rendered to capital embarked in such enterprises, by the new administration of Hungary, there can be no chance of success for adventuring companies in that country.

Vienna, May 6. J. C. H.

WEALTH OF RUSSIA.

SIR,—In your Journal of last week, I observed a paragraph respecting the wealth of Russia. A friend of mine was invited, in 1844, to the ceremony of inspecting the vaults containing these great treasures. After a great deal of military parade, the party was conducted to the vaults to see this precious hoard; when, to his surprise, only about 12 sacks were opened and several boxes—a large number all around being securely fastened and sealed; the conductors affirming that they were all full, but they must take the emperor's word for it, as he had only permitted a few to be opened. Only to feel the other bags externally, would subject the parties to imprisonment. Now, our hatter's shops in London have many boxes without hats in them; our grocers paper up plaster of Paris sugar loaves; and, I have no doubt, that if a proper examination was made, these supposed bags of wealth would turn out to be "dummies." But if this supposed modern Cœsus is as wealthy as he is in that paragraph represented to be, how has he obtained it? Every state criminal, for the most trifling offence, is taken from society, banished to the Siberian gold mines,

* The produce of rock salt is considerable, but, being a monopoly, it is not included in these returns. † Austrian weight—1 marc = 9 ozs. troy—1 cwt. = 123½ lbs. avoir.
‡ 1 florin = 2s. sterling. § 18 cwts. = 1 ton English.

and worked in gangs to obtain the golden produce, until death relieves them from their sufferings. The emperor appropriates to himself this produce, while the expenses of supporting the transports are borne by the state; so that every pood of gold is absolute profit to him individually. It would, therefore, be much more to his credit to lighten the burdens of his people, and spend some portion of such ill-gotten wealth in the means of education for the young and rising generation—improving some of the more barbarous parts of the empire—and liberating and re-establishing many of his unjustly enslaved subjects.—DELTA: *London, May* 31.

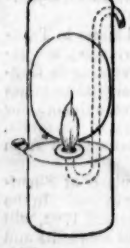
OXIDE OF ZINC AS A PIGMENT.

SIR,—The failure mentioned by "H. B.," in the *Mining Journal* of last week, as occurring about the year 1839-40, appears to me to have been rather in the preparation of a pure oxide of zinc, than in the application of such an article to painting iron, &c. I calculate, that with a highly ignited anthracite coal fire, an abundant supply of pure air over it, and a series of well-contrived condensing flues, or chambers, I should produce a very different article to that described by "H. B." As I stated in my former letter, I do not profess to be an electrician; but I cannot think that two metallic oxides would have such a destructive effect upon each other as "H. B." supposes. If one was in the state of oxide, and the other as the pure metal, possibly some injurious action might go on. Upon the whole, "H. B's" letter looks very much like the production of some party interested either in lead ores, or in the manufacture or sale of white lead. The subject is one of some interest, and I hope to see a little more discussion upon its merits.—T. H. LEIGHTON: *Cwmamnon, May* 30.

OXIDE OF ZINC AS A PIGMENT.

SIR,—I have read with some interest the letters of Mr. Leighton and "H. B.," of Swansea, respecting the use of the oxide of zinc as a substitute for white-lead, in painting iron work, &c.; but the results of the samples tried by Mr. R. Mallet, of Dublin, are very different from some pure oxide I made and used myself. Some years back I painted a sheet of iron, half with white-lead, and the rest with oxide of zinc—that painted with lead peeled off some time ago, and the part of the iron it covered is now nearly all rusted away; whilst that covered with the oxide of zinc, with the exception of change in colour, is nearly as good as the day it was painted. Perhaps "H. B." will be kind enough to give the particulars of the process alluded to in his letter—and, whether the ore used was the sulphuret—if so, they might probably have obtained an impure oxide. Any plan, by which the ores of zinc can be made useful, will be a great benefit to the miner.—A: *Liverpool, May* 29.

A NEW SAFETY-LAMP.



SIR,—It is not my present purpose to enter into the arena of controversy, nor have I the slightest ambition to contend in rivalry; I merely mention the principle of a recent safety-lamp of mine. The oil cistern is the same as in the "Davy;" the body of the lamp, however, is an *air-tight* cylinder of metal, screwed into the socket of the oil cistern. The lamp sheds its light through a *window of Muscovy glass*, and the flame is supported by a tube entering the cylinder *from above*; the lower terminus curves upwards below the socket on which the wick flame rests, and thus supplies the flame with air. The safety-lamp is otherwise air-tight, with exception of an orifice in the conical summit of the dome. I hope I have made myself sufficiently intelligible, without the necessity of illustration by the rude sketch enclosed.

Portland-place, Hull, May 30. J. MURRAY.

THE SEPARATION OF IRON.

SIR,—You have long ago recorded my recommendation of employing the *magnet* in the separation of iron and its protoxide from gold and other ores—attended, in the former case, by such a waste of mercury in the process of separation of the gold by amalgamation. I remind you of this, because I see a *patent* recently taken out for this very thing. J. MURRAY.

Portland-place, Hull, May 30.

FRAGMENT OF A BONE FOUND IN A LEAD MINE.

SIR,—I think that it was the celebrated Werner, of Freyburg, who first announced the existence of shells in metallic veins; and, if my memory is not at fault, a splinter of wood was discovered in a vein in the Dugton Lead Mine; and a Spanish gentleman showed a friend of mine a *cardium* encrusted with silver ore from the Silver Mine of Potosi. The beautiful researches of that distinguished *sçavan*, Robert Were Fox, Esq., of Falmouth, have always appeared to me highly satisfactory and conclusive, and his *Theory of the Formation of Veins* all that could be desired. I cannot, however, at present enter on the question; and merely incidentally allude to the subject, to introduce a reference to a specimen found in a lead mine, now in my cabinet, and thus labelled—"Fragment of a Horse's Bone, found in Meer-rake Mine, on Kenslow Pasture, near Middleton, by Goulgrave, in 1818." It appears to be a portion of the *tibia*—is extremely heavy, and seems completely *saturated* with metallic ore. J. MURRAY.

Portland-place, Hull, May 30.

BUTTER.

SIR,—The separation of butter by the usual operation of *churning*, is sometimes, especially in cold weather, and some other conditions of the atmosphere, a very difficult and tedious process; and yet it seems to be one purely mechanical. In these days of inventive ingenuity and patent right, it seems strange to me that the principles of the air-pump have never been enlisted into the service. I have separated butter from cream in less than a minute. If rich thick cream be placed on a good absorbent, the butyraceous pent will soon be developed; even on a sponge, filtering paper, &c. Butter will soon manifest itself.—J. MURRAY: *Hull, May* 30.

STEAM CYLINDERS.

SIR,—Allow me to suggest the strengthening of steam cylinders and pipes, subject to great pressure, with spiral bands. I have demonstrated, on a former occasion, that the two thicknesses of a vertical section of the iron will each have to bear one-fourth the whole pressure on the internal surface, except the ends. A transverse section would, of course, have to bear half the whole pressure on the ends, acting merely on the circular line, or thickness of metal. What then must be the actual pressure of 1000, 2000, or 3000 lbs. to the square inch of internal surface? The principle applies, of course, to small tubes as well as to large cylinders—when the steam is confined within such tubes, but not otherwise.

Penzance, May 29. A. T. J. MARTIN.

PRESERVATION OF FIRE-BARS—PRIMING.

SIR,—Having witnessed some great improvements on the above important subjects, which may interest your readers, I beg to send you the particulars. The boiler used is 13 ft. long and 4 ft. 6 in. internal diameter, with spherical ends, there being no tubes in it; the water level is always within 6 in. of the top of the boiler, on account of our flues being carried very high, which gives but little steam room, and often causes the boiler to prime. The quantity of soda used for preventing this, we find best to be about 1 lb. every four months, in consequence of our using the condensed water over again, as no steam is allowed to escape from the exhaust-pipe, except through the condensing-pipes. The coil of pipe for condensation is 4 in. in diameter, and about 150 ft. long, so placed on inclines that the whole of the condensed water returns to a small tank, placed on the boiler, and is again returned to the boiler by a force-pump, attached to the engine in the ordinary manner. If the tank for receiving the condensed water could be conveniently placed about 30 ft. below the exhaust-pipe, a partial vacuum would be obtained which would greatly increase the power of the engine.

Another arrangement we have found very useful, in respect to the preservation of our fire-bars. The first set of bars we used were entirely destroyed in three months, owing to the intense draught of the furnace; and our fuel being the best coke, as used in the locomotive engines, our bars were all drawn down, and some of them melted together. Our boiler being too small for the engine, we were obliged to generate steam as rapidly as possible, to do the work required.

In order to remedy the above evil, we had a cast-iron pan made the whole length and width of the furnace, 8 inches deep, and constantly kept full of water; and, for the last five years, we have not had occasion to replace a single bar, in consequence of the ashes being immediately cooled in the water. Another advantage is derived by the use of the water below the bars—viz.: the steam arising from the surface of the water, and passing through the fire bars, is instantly decomposed, the hydrogen thereby assisting the combustion of the fuel, from its combining with the oxygen of the atmosphere, and causing an intense heat. Another advantage gained by the steam passing under the fire bars, is the prevention of the clinkers adhering to the bars, as we find now they come off in large pieces. I beg to inform you, that the above alterations incur but a small expense, and will prove highly useful and economical. JOHN HARRIS, Engineer.

London Bridge Railway Station, May 31.

IMPROVEMENTS IN SMELTING.

SIR,—Observing, in your last two Journals, a copy of a specification of a patent, by Mr. Birkmyre, of South Down, Cornwall, for "improvements in smelting copper and other ores," I take the liberty of pointing out to you, and through your Journal to your readers, that the above patent of Mr. Birkmyre, so far as it includes copper, in all its combinations, and sulphuric acid, and the nuisance arising from copper smelting-works, is a direct, though complicated, infringement of my patent for similar purposes, sealed in August, 1845, and upon the merits of which you did me the honour of publishing Prof. Richard Phillips's report, some months since. Presuming that Mr. Birkmyre had not seen my specification, or Mr. Phillips's report, or the various letters on the subject in your Journal, I forwarded a copy of the report to Mr. Birkmyre, with a note of explanation; but I am surprised that he should have been so little careful to search the patent rolls before sealing his own; or, if not in ignorance, that he should thus openly infringe a patent of more than two years' standing, and which had then been in active operation 12 months at Swansea. Of Mr. Birkmyre's figures and calculations, I shall only say, that I think he will find *experience* contradict them; and that, instead of 2½ lbs. of copper being precipitated per square foot of iron surface, per hour, 2½ ozs. would have been much nearer the truth. I have reached only 4 ozs. per square foot per hour, although my vats have contained several hundreds of square feet of iron plates under the most favourable circumstances for deposit, with a *constant* stream of hot sulphate liquor passing over them.

Clements-lane, Lombard-street, June 1. FREDERICK BANKART.

BORING BY STEAM.

SIR,—Will you allow me a small corner for a few words to Mr. Mather, of the Salford Iron-Works, who seems to have set himself up as the mentor of unfledged patentees? He has said, that I have infringed his patent; but has not shown where I have interfered with his invention. He certainly has assumed a great deal; but mere assumption will not do. Now, I have every reason to believe, that Mr. Mather's patent and mine are essentially different; and that mine offers many advantages which his does not—but enough on this head. I do not wish to avail myself of the space you kindly afford me to puff my invention. When the description, which Mr. Mather promises to send you of his apparatus, appears, I will, if necessary, go more into detail of the difference between them.

Goldsworthy Cottage, May 31. W. G. GARD.

NOVA SCOTIA IRON ORE.

SIR,—In addition to the specimens already seen by you, of various kinds of steel, steel-iron, and grey pig-iron, manufactured by Robert Mushet, Esq., of Coleford, from the specular iron ore of Nova Scotia, other descriptions of cast-steel have been made by that gentleman, *direct from the ore;* and, after subjecting them to the action of the tilt hammer, so as to draw them out in the usual way into bars, at the steel works of Messrs. Jessop & Sons, Brightside, Sheffield, they were manufactured into razors, files, and turning tools, by Messrs. Marshes and Shepherd, of Sheffield. These gentlemen have accompanied the articles so manufactured with a letter (a copy of which I hereunto annex), and have to request respectfully that you will give it insertion, at your convenience, in your valuable periodical.

I beg further to state, that on my arrival at Liverpool, in March last, I was politely permitted, by the proprietors of the "Mersey Steel and Iron Works," to manufacture a small bar of steel-iron at their establishment, from this ore, and which they were kind enough afterwards to convert into cast-steel in the usual way. This bar of steel was made into various articles of cutlery, by Mr. William Armroyd, of 95, Lord-street, Liverpool; and I subjoin a copy of his report of the quality of this sample of steel. From these satisfactory results, I think I may safely congratulate those who have been fortunate enough to apply for stock in the "Londonderry Mining Company of Nova Scotia," as to the flattering prospects presented.

May 31. JOHN ROSS.

"John Ross, Esq., from Truro, Nova Scotia.

"SIR,—We have tried the various pieces of steel you had with you, and we have made several articles of files, razors, and turning-tools, and we are well pleased with the result. Although the articles manufactured are not perfect, yet we conceive the attempt as proving very promising; and we have no doubt of the ores proving of good quality, and of good quality steel being produced. We shall be happy to hear from you, and to be informed how your subscriptions fill up, and who, if any, will be likely to go out to take an active and responsible part in the undertaking. So anxious are we that the matter should succeed and be persevered in, that we should not hesitate to take a small interest, provided we were made acquainted with the names of the active men in the conducting and carrying out of this very promising and practical, as well as valuable, undertaking.

"*Ponds Works, Sheffield, May* 20." "We remain, &c., MARSHES & SHEPHERD.

"John Ross, Esq., of Truro, Nova Scotia.

"SIR,—It gives me great pleasure, in compliance with your request, to state in writing (and you are at perfect liberty to use it in any way that may best serve the object of your experiments), that I have manufactured various articles of cutlery—such as razors, penknives, and scissors, from a bar of cast-steel brought to my shop by you, in company with Mr. Thomas Forrest, of the Mersey Steel and Iron-Works. The latter gentleman has informed me, that the steel was made by himself from bar-iron made from Nova Scotia ore, under his own superintendence. The steel is of first-rate quality, equal to any I have used, and I have before now paid at the rate of 80*l.* per ton for fine steel, for certain purposes.—W. ARMROYD: *Liverpool, May* 27."

NOVA SCOTIA IRON ORE.

SIR,—Your correspondent, Mr. George Phillips, states, "That sometime since (I think about December last), Mr. Robert Mushet, during a correspondence in your valuable columns, emphatically denied the possibility of converting rich hematites into steel of good marketable quality by reduction and fusion only, without the necessity of smelting, puddling, rolling, and cementation, as is the common practice." I now invite every shareholder in the Londonderry Mining Company to refer to, and inspect, my correspondence in the *Mining Journal*, and to convince themselves that the above statement, by Mr. George Phillips, is throughout a pitiful falsehood of his own invention, and not borne out, either in its words, or in its interpretation, by any statement of mine contained in the columns of your valuable paper. To my letter of 4th Dec., 1847, I refer in particular, wherein I allude to experiments made by my late father, with a view to test the practicability of making good bar-steel direct from the puddling-furnace. This steel was made by *cementation*—not by fusion, or reduction; and, though *marketable*, it was of an inferior quality. I call the attention of your readers especially to the statement invented by this contemptible and insidious detractor—George Phillips—and ascribed to me. I am made to deny, *emphatically*, the possibility of making good steel from hematites by *fusion only, without* the necessity of *smelting*, &c.! Too lazy to refer to your Number of 4th Dec.—too invidious to state facts as they really are—and too careless to observe the ludicrous contradiction, as above shown in his *manufactured* statement—George Phillips exhibits himself to the public, and, with unblushing impudence, ascribes to me opinions, and even words, which the slightest reference to my letter of 4th Dec., and to my previous and subsequent letters on the same subject, will show to any reader I never either maintained or gave utterance to.

It will further illustrate the outrageous degree of license which Mr. George Phillips allows himself to use, when I state, that I have never even seen a specimen of *hematite* from the mines of Truro, Nova Scotia. The ore forwarded to me for trial by Mr. Ross was *specular iron ore*. Again, I was not aware that Sir Thomas Lethbridge possessed any *hematites;* the ore which I had from him, to the extent of about 100 tons, was *magnetic iron ore*. I have never succeeded in producing *good* cast-steel, by *simple fusion*, from *any* kind of hematite. I did not succeed in producing *good* cast-steel from Sir T. Lethbridge's magnetic iron ore by *simple fusion;* but I have produced good cast-steel from the Truro specular iron ore by *simple fusion*. I can do so again; but whether the Londonderry Mining Company may choose to adopt my process, or any other particular process, is to me a matter of consummate indifference. Moreover, I should not choose, upon any terms whatever, to impart any of my processes for steel making to a company in which such individuals as Mr. George Phillips possessed any influence. What I have done, has been performed at the request of my friend, Mr. Ross; and, at his request, I have delivered my unbiassed opinion respecting that kind of ore which he forwarded to me for trial, and its capability for conversion into steel; and, as I am in no way connected with this company, I think that a mere act of friendship, or a friendly opinion, which an examination of the specular ore justified me in giving, might have secured me from the attacks of such an insidious detractor as your correspondent (G. Phillips) appears to be.

In my letter of 4th Dec., I candidly offered to lay before Mr. Radley the correspondence between Sir Thomas Lethbridge and myself, in order that he might convince himself that his plans and discoveries formed no part of the subject matter of those letters, more than in that one brief quotation, from Sir Thomas's letter, dated 6th Oct., 1847, inserted in my letter of Dec. 4th, in which Sir Thomas says—"I have an offer from a Mr. Radley, in London, to smelt, at my own works, my rich ore; and I shall be inclined to try him." I formerly understood, that Mr. Radley's process for making steel was by *puddling the iron*, so as to bring it into the state of steel, stopping short of that of bar-iron. Now, George Phillips intimates, that Mr. Radley's process is to make good cast-steel by *simple fusion from hematites*. Does Mr. Radley wish to monopolise every process for manufacturing cast-steel, or other steel, directly or indirectly from the ore, to himself? And does he wish to tax me, through the aid of his bully (George Phillips), with pirating *all* his processes? I cannot make good steel by the puddling process; and I cannot make good steel from hematites by simple fusion—so that, if Mr. Radley *can* make good steel by either process, he can do more than I; and it is clear that I am, therefore, ignorant of his *modus operandi* in both instances.

I supplied my friend, Mr. Ross, with five samples, or ingots, of steel—each prepared from the ore by a different process. These samples have been tilted and manufactured. From these trials, and from others which may be made, the public will learn the excellence of the Nova Scotia ore, as applied to steel-making; and I shall learn which process, out of five that I employed, is best suited to the production of bar and cast-steel from that ore. The idea of making steel by simple fusion originated—like most other *ideas* upon the subject of iron and steel—with my late father, nearly 60 years ago; and he readily obtained cast-steel from various primary ores of iron, by simple fusion, in a black-lead crucible—but the steel thus prepared always possessed a degree of crudity; nor would it stand the tests of good cast-steel in every respect. I have never recommended that the Nova Scotia Company should obtain their steel by simple fusion; I have merely cited the fact of its being possible to obtain good cast-steel by simple fusion from the Nova Scotia specular iron ore, as an instance of its remarkable purity and singular aptitude for forming steel. Mr. Charles Sanderson, the most eminent steel manufacturer in the world, in writing to me, expressed his opinion that such an ore must be a most remarkable one. My excellent friend, Mr. Ross, may, at all times, command, as a friend, my services and receive my opinions; but no company in existence, nor any pack of embryo shareholders, with George Phillips at their head, shall ever buy my opinions. By whatever process the Londonderry Company may hereafter manufacture their steel, I hope they will give due credit and reward to the inventor of that process, whether Radley, or Mushet, or Heath—the latest, and greatest unrewarded, improver of cast-steel. For the sake of the worthy proprietor (Mr. Ross), I would venture to hope that the Londonderry Company will rather prefer adopting, in the first instance, the *known* and *established* methods of manufacturing bar and cast-steel, than those invented by either William Radley or Robert Mushet; and, on the score of economy alone, this is desirable—for, though I may never realise 1*d.* from any one of my five processes for cast-steel making, yet I will not sell one of them under 20,000*l.* in cash; and Mr. Radley, probably, would require as large a sum for his inventions. I am not so disinterested as George Phillips, who publishes *his inventions* to the public free of all charge.

In July, 1846, I saw many tons of cast-steel, produced from a blast-furnace in which I was unfortunately a proprietor to the extent of one-third. It was produced direct from the ore; and I thought at that time—and I still think—that both its fusion and production were very *simple* indeed. I mentioned this fact in your Journal not long after it occurred, and was ridiculed by your correspondent, "Old File," for maintaining, that cast-steel could be made by simple fusion from the ore. All this took place a year before Mr. Radley had visited Sir Thomas Lethbridge—so that, if Mr. Radley's plan is that by simple fusion, it could be nothing new to me. It will be fortunate for the Londonderry Company if Mr. Phillips should keep *aloof* a few days longer, as their shares will, by that time, be most probably all pre-occupied; and Mr. Phillips will be left in the lurch—a kind of dog in the manger—who forgot to commence his snarling until after the hay and oats had been eaten. In conclusion, I shall remark that, if I had attributed any importance to the process of preparing cast-steel by direct fusion from the ore, or had I considered it a secret process, or one to which I myself laid claim, I should scarcely have invited the *doubting steel-makers* to witness the operation. ROBERT MUSHET.

Coleford, May 29.

BORING—DEVIATION FROM THE PERPENDICULAR.

SIR,—The lateral deviation from the perpendicular, in long bore holes, would form an interesting and curious subject for inquiry, there being no certain data by which to estimate its extent or direction before the whole mischief has been done. Still the deviation, with only common care, is not so great as to form an excuse for your correspondent "Chwareu Teg" not being able to find the hole, after driving headings in all directions for it. Would not the degree of uncertainty in the intervention of a bore hole, by a drift, at considerable depth, be obviated by boring upwards, slightly oval, instead of round rods being used, to allow the dentritus to descend; the deviation of a few feet at surface would be no object. This hole might be at first small, and afterwards enlarged, from the surface downwards. In boring upward, the rods might be balanced by levers and weights, worked by hand or machinery.—A. T. J. MARTIN: *Penzance, May* 30.

[In inserting this communication from Mr. Martin, we would just observe that, in very few cases, could boring *upwards* be resorted to—perhaps only in some isolated ones, for ventilation—as boring, in general, is to ascertain the nature of the strata before sinking a shaft.

ELECTRIC TELEGRAPH—THE PATENT LAWS.

SIR,—You have, for some weeks past, had some very interesting correspondence on the subject of the Patent Laws; which, as at present constituted, are most certainly a disgrace to the statute book: and, in your leading article of the 20th ult., you recommend a more efficient mode of enabling parties to make themselves thoroughly acquainted with all improvements and inventions which have been patented, than the present system affords, in order to prevent them from throwing away money in taking out patents which afterwards could not be supported. I am led to these remarks, by seeing in the *Mechanics' Magazine*, of Saturday last, a patent taken out by Mr. Reid, of University-street, for laying electric telegraph wires in hollow wooden sleepers, filled in afterwards with marine glue, gutta percha, asphalte, Stockholm tar, or other resinous, or bituminous composition; and also, for a series of no less than 11 different forms of earthenware insulators for posts, when the nature of the country renders their use unavoidable. Now, Sir, the Electric Telegraph Company, in laying their wires through London, have insulated them from contact with the iron pipes through which they run, by the use of bituminous matter—they also employ earthenware insulators for their posts; and Messrs. Brett and Little have secured, in their patents, a bell-shaped insulator, also made of earthenware. I believe Mr. Reid to be a clever electric engineer—but if the mere difference between a hollowed out wood sleeper and a metal pipe, when the same principle of insulation is employed, and every shade of shape in earthenware insulators, when the same material is brought into use, is to form a separate and distinct ground for patent right, we need not wonder at the multiplicity of law-suits engendered, and the vast amount of money which is annually engulphed in the insatiable maw of the Chancery Court; the whole of which is a dead pull on inventive genius—a cause of fear to the enterprising capitalist, who, under other circumstances, would advance money to assist the needy inventor—and a drawback to the advance of science. Were, however, our Patent Laws thoroughly revised, and so reformed as to be understood, the reverse of all this would be the case. Can you, or any of your readers, inform me in what publication I can see a description of Mr. West's process of covering wire for telegraphic purposes? A PATENTEE, WHO HAS PAID FOR EXPERIENCE.

Dalston, May 30.

THE PATENT LAWS.

SIR,—In the statute for the reform of the Patent Laws, so strongly urged as necessary in your columns, it is to be hoped there will not be a tendency to render the remedy worse than the disease, as is too often the case in modern alterations—"confusion rendered worse confounded." By giving too great facility for securing patent right, will there not be a very objectionable multiplicity of patents for every crotchet that has the fresh gilding of novelty; local invention and mechanical contrivance will have to wait a search at the Patent-office, before a wheel can revolve, or a lever be moved at a patented angle; the registration of designs has already done this to too great an extent. High fees prevent too great a multiplication of the monopolies of invention; one that is good for anything is generally worth the present cost of a patent, and full scope is given for the exercise of mechanical genius and mental ingenuity.

May 29. A. T. J. MARTIN.

THE BRITISH INVENTORS' PROTECTING SOCIETY.

SIR,—Since the publication of my remarks, in your valuable Journal, a few weeks ago, regarding the intention of the British Inventors' Protecting Company about the Patent Laws, several of your readers have been applying to me for our prospectus. Will you, therefore, allow me to state, that the company have not yet issued any prospectus to the public—their proceedings hitherto having been entirely of a private nature.

The company having, however, enabled an ingenious mechanic to obtain a patent for "certain improvements in obtaining and applying motive power"—which includes a new and simple construction of steam engines for locomotive, marine, and stationary purposes; also, a new vertical float propeller for steam-vessels; and a new mode for propelling trains on rails, with great *speed, safety*, and *economy*—they are desirous of extending these patents to other countries, as soon as the restrictions of the present obnoxious Patent Laws will permit; and, in the mean time, give every information in their power to those who may be interested.

184, *Fleet Street, May* 31. ALEX. CAMPBELL, Sec.

CAST-STEEL MANUFACTURERS.—In the *Mining Journal* of the 6th May, we inserted some queries submitted by a correspondent of the *Mechanics' Magazine*, to those acquainted with this subject, to which "A Steel Manufacturer" (Sheffield) has furnished the following reply:—"Small articles cannot be cast in steel with any degree of soundness or sharpness: the metal sets immediately on being poured into the mould, and is of so susceptible a nature, that it shrinks from contact with anything, and would not receive a fine or sharp impression. All cast steel requires to be either hammered or rolled to render it fine and sound in the grain. It is frequently full of small holes, which would be exposed by turning or planing, and in small articles this could not be avoided. The writer once tried to cast some slides for machinery, which were difficult to forge, being quite as large as the ingots are usually made. He experienced no difficulty in casting; but when they were planed up, the small holes were exposed, and rendered the slides useless. He has made an experiment with a small casting, a part of which is forwarded; the round end is in the state in which it left the mould (12 inches of a gun barrel), and the square end has been slightly hammered, but not so much as usual. The whole length, before hammering, was full of small holes, having no connection with each other; this casting is of a very common quality of steel, but less liable to be *blown* than a better quality would be."

VALENTIA SLATE QUARRIES.—We are glad to hear that these quarries are about being again worked on a very extensive scale.

Geology of the Isthmus of Panama,

ACCOMPANIED BY A MAP OF THE TERRITORY FROM THE GULF OF DARIEN TO CHIRIQUI.

BY E. HOPKINS, C.E., F.G.S.

[*Continued from the Mining Journal, May 27.—Communicated by the Author.*]

The peculiar manner in which some of the hornblendic, and almost all the auriferous, granites decompose, has already been pointed out—viz.: in *spherical exfoliation*: they often appear like caps of conglomerates, resting on the parent rock. There is another fact connected with these formations—namely, all the argillaceous sedimentary beds formed from the debris of the above (after their having been re-consolidated) decompose in the same manner. Had it not been for the distinct centres of attraction observed in these nodules, and more particularly in those of the original rocks, we should be led to consider these rounded hard lumps, in the sedimentary rocks, as residuary nodules enclosed during the accumulation of the beds. They resemble the concretions of flints in chalk, and the radiating concretionary structure occasionally observed in the magnesian limestone.

This phenomenon of decomposition in the auriferous granites and porphyries of the Isthmus is very common on the Andes. I have seen it in Antioquia, the Cauca, Mariquita, and near the sources of the Orinoco. It is not the mere change of an uniform crystalline mass into a globular or concretionary structure that is so interesting, but the changes which take place in the constituent elements—*ferruginous crystals and gold become developed during the concretionary action.* At a certain depth from the surface, we find the rock in its ordinary crystalline state; the change commences by very faint circular lines. As these increase in number and thickness, the radial structure, from various centres, becomes more distinct, and the nucleus gets more silicious and denser than the parent rock. At length, towards the termination of the transition, the concentric divisions become filled by an efflorescense of black ferruginous sand, amongst which the gold is found, and the mass surrounding these centres gets very incoherent from the entire abstraction of the silica towards the nucleus; consequently, the surface gradually crumbles away, and the lighter particles washed off by the rains; the hard-rounded centres, with the ferruginous sand and gold, are deposited at the foot of such mountains, and thus form the ordinary gold washings. These concretionary changes appear to be formed by a process of aggregation, strictly analagous to that which take place in aqueous deposits, acting chiefly on the silica, but likewise on some of the elements of the surrounding mass. Such are the sources of the gold deposits of Veraguas, which are now all but exhausted. The same kind of action is still going on, but it requires long periods of time to produce sufficient deposit of gold to render it a profitable speculation. The present washers are only supplied with the daily decomposition, and what they can detect amongst the old washings; their earnings, on an average, throughout the year do not amount to 1s. 6d. per diem. Some have actually gone to great expense in driving into the auriferous rocks in search of a supposed *mother vein*, from the mistaken notion, which is still too prevalent amongst miners, of supposing that gold, and other metals, must necessarily come from lodes, or veins, as if these fractures and joints were the origin of metals, and, consequently, throwing away a great amount of capital in searching after such supposed sources. It is pleasing, however, to observe, that these erroneous ideas are gradually giving way to more correct notions, and that the more intelligent mining engineers are now getting into the knowledge of the action going on in metalliferous rocks, and the true nature of mineral veins, *by studying the natural process in mines, and the chemical character of rocks*, and thus are governed by the laws of nature, instead of the igneous and other fanciful hypotheses, which are as useless in practice as they are wrong in theory: it is the only way by which we can obtain a clear insight into this interesting subject. Besides, there is one grand advantage in the electro-magnetic theory over any other yet proposed. A person who thoroughly understands this principle, will dispatch more work in a month than he would without in 12 months; and, what is still more important, he can, without hesitation, predict any question interesting in mining—such as the rich parts, poor parts, dislocations, &c., in any country, and be correct in nine cases out of twelve.*

METALLIFEROUS DEPOSITS.

This question has been almost anticipated in the foregoing observations, and, consequently, will require but a brief notice.

The mines of Cocle are situated on the north side of the chain, near the river of that name. The veins are principally quartz, some of which enclose thin strings of sulphuret of iron and zinc, and sometimes accompanied by the earthy oxide of iron; the latter is generally rich in gold near the surface. Some of these mines have been worked; but, after expending a considerable amount of capital, they were abandoned as unprofitable; like the generality of gold mnes, they were found comparatively rich near the surface, but very poor in depth. The formation appears to be a confused mass of quartz veins, varying in direction from north-west to north; they are hard, irregular, and branchy, and only contain on an average (according to the specimens I have examined) ½ oz. per ton, and the gold is in an impalpable state, which renders it almost impossible to detect one-half of it, by washing or by quicksilver. An auriferous vein requires to be wide, porous, and easily extracted, affording a large quantity of mineral at a cheap rate, and not under 1 oz. per ton of fine gold, and large grains, to pay cost—therefore, it may be well conceived that the above mines are unworthy of being worked by private individuals, much less by public companies.

The mines of Canasas consist of a great number of quartz veins, running north and south. The specimens examined were extremely poor, not containing ¼ oz. of gold per ton, and the quartz is hard and compact, very close grain, and the gold is in a very fine state—*a mere colour*, without any specific weight. A party has been working on some of these veins for several months; the mineral, or rather the quartz, was ground in arrastres, and triturated with mercury, and the quantity obtained in three months was too insignificant to notice. It is madness to work such mines; auriferous quartz veins are the most deceptive of all metallic veins—sometimes glittering with gold near the surface, but after penetrating a few fathoms inwards, the gold dwindles into a mere colour; the best gold veins are seldom productive in the long run, but auriferous quartz veins are the worst.

The gold washings of El Mineral de Veraguas have been once very productive, and are still the most important in the Isthmus. During the years 1800 and 1804, there were introduced into the Provincial Treasury 198,356 castillanos of fine gold, or (say) 49,589 cas. per annum, to pay the 3 per Cents.—*i. e.*, being 3 per cent. of the produce of the washings. Since then, however, like many other gold mines, the great deposits have been exhausted, the present washers are limited to the rivers and the unconcentrated detritus of the auriferous rocks. According to Sr. Romero, the governor of Veraguas, the produce of the gold washings in the year 1844 was—El Mineral de Veraguas, 9986 castillanos; Canasas, 1200; Palmas, 600; Sona, 2400=14,186 castillanos. The gold of the above washings is in more or less large grains and high standard, and, consequently, easily extracted by ordinary washing. The great labour and cost attending this kind of work, which renders it unprofitable to companies, arises from the necessity of removing all the accumulated round stones, above noted, to get at the deposit—a work which cannot be effected by means of machinery. Considering the scattered character of such deposits, and the uncertainty of their contents, also the indispensable necessity of the work being done by manual labour, we can easily conceive that, if a hard-working man cannot get his livelihood in working, *per se*, it cannot be expected that a company, by means of *free labour*, would derive any benefit from such speculations. Sr. Romero admits with me, that the labour attending the *washing* of the above deposits is a mere trifle. It is the *removal of the stones*, &c., that causes the great expense; and this can only be done by manual labour. The natives are expert washers, and many know well the auriferous rocks and the character of the depositions, and the localities where the gold mostly accumulates; yet, notwithstanding such local knowledge, and also constitutions to bear the hot sun and heavy rains of the tropics, they seldom earn above three reals per day (1s. 6d.) How, then, can persons recommend such speculations to the notice of public companies? They are only fit for the poor inhabitants to earn their daily bread, when they cannot get better employment. There are but few undertakings of this description profitable to companies. Extensive and uniform deposits, like those of Choco, worked by slaves, or those in cheap and healthy situations, like the Ural, in Russia, where one man is able to extract sufficient stuff in 10 hours to produce 5½ oitavas of gold, may do well; but not in insignificant and irregular deposits like the above, with free labour.

The *copper strings*, near Santingo, are too minute to be classed under the head of mines. A small quantity of native copper in flakes, has been found near Ora, Tara, and Castilla, in the metalliferous rocks above alluded to. No sulphurets have been discovered, nor is there the least indications of them in depth; indeed, the whole country appears to be barren of sulphur—the most essential mineralising agent. Pyrites are rarities in the Isthmus; a common mineral in all mining districts. No mineral veins are formed, nor enriched, without the agency of sulphur, be they gold, silver, or copper; therefore, where pyrites do not exist, and in large quantities, there can be but small hopes of finding much mineral concentrated in the primary rocks.

The profitable parts of copper mines are the sulphurets, especially the yellow pyrites; hence miners like to see, on the back of lodes, the decomposed sulphurets, known by the English miners by the name of *gossan*, and in South America *paco*, indicating a strong chemical action near the surface, and, consequently, a powerful lode of pyrites in depth, be it iron or copper. *Native copper* is rather an unfavourable indication (it shows the want of the mineralising and the concentrating agent); and as this is the only substance found in this locality, accompanied by a colour of its green oxide, I cannot recommend any large trial works to be carried on.

Although I see no encouragement to carry on mines, on a large scale, in the Isthmus, yet the gold will be equally extracted by the poor people, who are fond of this kind of industry; and the quantity of gold will continue to increase with the gold-washing population at the rate of about 2½ reals each per diem (1s. 3d.), being the average produce during the last years. The commerce of the country will, therefore, derive as much benefit from the metallic produce of the Isthmus as if the deposits were worked by companies; and, although the productive value of the population engaged in the extraction of gold is by this means reduced very low, still, in a country where there is so little industry, it is not felt; and it is much better to do this than to waste a capital which may be more usefully employed in other works, to the benefit of the capitalist, as well as that of the country. [*To be continued in next week's Mining Journal.*]

* I may now state, that it can be done in 10 cases out of 12; and when miners understand well the real character of the cleavage structure, they will be more able to give a correct opinion.—E. H.

On the Winning and Working of Collieries.

BY MATTHIAS DUNN, MINING ENGINEER.

No. VI.—*Continued from the Mining Journal of the 27th May.*

The following notice of the South Wales coal basin, is from Mr. F. Forster's communication to the Natural History Society of Newcastle:—

Mr. Forster estimates this immense coal basin to consist as follows:—Pembrokeshire, 80 square miles; Carmarthenshire, 133; Brecknockshire, 68; Glamorganshire, 569; Monmouthshire, 85=935 square miles. It would be needless to attempt to follow Mr. Forster's details as to the dip and rise in various localities, without accompanying plans and sections, vastly too compendious for the scheme of this work. I must, therefore, content myself with extracting certain general remarks from his luminous and comprehensive communication. He says "that the whole of the coal strata in Pembrokeshire, as well as the underlying mass of limestone, are so much distorted from the contiguity of trap, or transition rocks, as to preclude any general statement of inclination."

In Pembrokeshire the underlying limestone is said not to exceed 100 fms., whereas, in Carmarthenshire, it is said to be 600 or 800 fms. The whole of the district is intersected by deep valleys extended across from north to south, which, together with the elevation of the strata, afford unusual facilities for draining and working by level immense tracts of coal and ironstone—advantages from which he great iron smelters of Wales are enabled to obtain their materials at a rate unequalled for cheapness in other parts of the kingdom. The great north and south valleys intersecting the district are 10 in number—

1-2. The valleys formed by the Cliddy and St. Lawrence rivers, which extend from Milford Haven, and completely intersect the Pembrokeshire part of the district about its centre.

3. The opening formed by Carmarthen Bay.

4. The vale of the Llwchor river, extending with its branches across the basin from Pembry, nearly to Llandibie, on its northern edge.

5. The vale of the River Tawe, extending inland from Swansea to the north limestone hills at Hennoyadd, and accompanied by a canal nearly to that point.

6. The Vale of Neath, through which flows the river of that name, extending from Neath to Dynas Rock, and accompanied by a canal, to within 2½ miles of the north limestone. Two other rivers, the Avon and the Ogmore, extend from the south edge, nearly to the centre of the basin.

7. The Vale of the Taafe, extending inland from Cardiff, intersects the south edge of the basin, near the great Gaith Hill, and stretches across it to Dan-y-Graig; along the valley runs the Glamorganshire Canal, forming a communication between the great iron-works, at and near Merthyr, and the sea at Cardiff.

8. The River Romney, uniting the counties of Glamorganshire and Monmouthshire.

9-10. The valleys formed by the Elwy and Sirhowy rivers, which run in north and south lines, nearly parallel to each other, across the Monmouthshire part of the basin; they are accompanied by canals and railways, connecting them with the River Usk.

Of these outlets, the first five are navigable within the edge of the coal-basin, as also the River Avon. These principal rivers, together with their tributary streams (which generally run in the water level line of the strata), so intersect this extensive and elevated district as to render the seams of coal, to a considerable depth, available by levels, and afford the additional advantages arising from a convenient access to the various ports, by means of canals and railways.

QUALITY OF THE SEAMS OF COAL.

1. Stone-coal, anthracite, or glance coal.—Stone coal is hard and brittle, breaking into sharp fragments; colour, greyish and black; lustre, splendent; in fracture, conchoidal; cleavage, presenting large and highly-polished surfaces; specific gravity, 1·380. Carbon 89; volatile matter 8; earthy residuum 3. Iron pyrites is seldom found in the stone coal, yet sulphur is disseminated in one form or other through the mass, discoverable by its suffocating smell—although many seams of stone coal are free from this pernicious ingredient. It is difficult to ignite, and slow in combustion, but affords strong and steady heat, emitting little smoke or flame. It is much used by malsters, brewers, and distillers, and mixed with Newcastle coal for steam-engines. Various attempts have been made to use it in connection with the smelting of iron, and there is reason to believe that it will in time obtain considerable consumption for that purpose.* The stone-coal seam often becomes so soft and tender, for many acres together, as to be fit only for culm (or small coal purposes), which culm is well adapted for lime burning, or, mixed with clay, forms fine fire-balls for the use of the poor.

2. Free-burning or coking coal, in the larger fragments, will coke in heaps like the coal of Staffordshire,† or those of Scotland, but the small, or dust, will not adhere and form coke. Cleavage irregular, presenting the striated surface sometimes exhibited by the Newcastle coal, in the vicinity of a dyke. Analysis:—Carbon, or coke, 82; volatile matter, consisting of gas of very inferior illuminating power, and no coal tar passing, 14⅓; incombustible earthy residuum, 3⅔=100. In the process of coking, the bulk is increased considerably, sometimes making the coke nearly as light and porous as wood charcoal; whilst, in others, such as the great seam at Merthyr Tydvill, it is more compact and ponderous, therefore better adapted for iron smelting. Mr. Forster is of opinion, that these coals are better suited for the use of brewers, distillers, and for the raising of steam, more especially for steam navigation, and possesses several peculiar and important advantages over any other coals. He says that 80 parts of this coal will convert into steam as much water as 100 parts of the best steam-engine coals of other districts. A layer of coal of 4 in. in thickness, when fully ignited, will, by the branching or swelling property, expand into a loose heap of 7 or 8 in. thick—yielding from their greatest flame little or no smoke; and, from the free passage to the air, the heat is so intense as to consume every particle of the cinder. The total amount of refuse, with a proper grate and skilful management, ought not to exceed 7 per cent.

3. Bituminous coal, called binding coal.—The small or dust of this coal will coke in the oven; in general, this sort of coal is soft and friable. It is of inferior lustre; colour, dull, brownish black; specific gravity, 1·285 to 1·315.

Analysis.	Most bituminous.	Least bituminous.
Carbon, or coke	69	79
Volatile matter	28	18
Incombustible earthy residuum, reddish yellow colour	3—100	3—100

Although unequal to the best Newcastle coke in point of strength, yet, many of the seams are free from sulphur. It appears from Mr. Forster, that a trap formation prevails in every part of the basin, which may have produced a stratification of stone coal, similar to that which takes place, in consequence of the trap formation in the neighbourhood of Kilmarnock, in Ayrshire.

Like all other coal basins, that of Wales is intersected by a variety of dykes; at some of which the coal is thrown 90 or 100 fms., but it is also subject to irregularities in the thickness of the coal, called rolls; and, although trap exists in irregular stratification amongst the lowest members of the Pembrokeshire formation, it does not appear that trap dykes are at all common. Very little fire-damp, as compared with the Newcastle collieries, is found to exude from these seams, which may, perhaps, be accounted for by the openness of their structure, added to their abrupt outcrop—the effect being similar in the laminated coals of other districts; the stone-coal seams abound more in gas than the bituminous coals. In respect to the quantity of coal contained in the mineral basin, any calculations of this sort, as Mr. Forster observes, is rendered difficult, on account of the perpetual change of position, owing to the dip and rise, as well as the problematical workable depth of the respective mines. The lowest range of seams, which are about 60 ft. in aggregate thickness, will occupy an area of 700 square miles, and would yield (did their depth not exceed 200 fms., at a moderate angle of inclination) upwards of *thirty thousand millions* of tons of coal; yet, it is very probable, that not more than one-third of that quantity will ever be obtained from them. The upper seams, on the other hand—whilst they occupy much less surface of country—are capable of being worked to a greater extent from the crop, on account of the more moderate inclination. Under all these circumstances, it may be estimated as an approximation, that the quantity of workable coal does not exceed *sixteen thousand millions* of tons.

At King's Pit and Tanhill, upon Stainmoor, in Yorkshire, a seam of coal from 4 to 5 ft. thick, is extensively worked, the position of which is interesting in a geological point of view, as will appear from the following summary account of the strata, from thence down the country to the valley of the Swale—viz:

	Fm.	ft.	in.
Coal	0	4	0
*Plate mixed with layers of ironstone, very rich	27	0	0
Crow, or black chirt	1	3	0
Crow lime	0	1	6
Black plate, mixed with shale	6	0	0
Grit close and hard	10	0	0
Black plate	6	0	0
Black and red bed chirt	7	0	0
Black plate	2	3	0
Grit close	1	0	0
Blackish plate, mixed with shale	1	3	0
Black, or main chirt	3	0	0
Twelve fm., or great limestone	10	0	0
Plate and grit alternating	7	0	0
Black chirt	2	0	0
Four fm., or little limestone	3	0	0
Black plate and light grit	27	0	0
Limestone	2	0	0
Black plate and grit	10	0	0
Limestone, bottom of Swaledale	2	0	0

Near Brough, in Westmoreland, a 16-inch seam of coal is ascertained to extend over a considerable district, being situated between the 4 fm. limestone and that beneath; it has a plate roof of considerable thickness, extending to within 4 or 5 ft. of the limestone.

* Nearly 10 years ago, Mr. Crane, of the Ynscedwyn Iron-works, took out a patent for smelting iron with anthracite coal, and which is still followed up with the most perfect success.—[ED. M. J.]

† It is a peculiarity that belongs to most of the coals in Staffordshire, that although the large coal be roasted in heaps into a species of char, yet neither large nor small will coke, or cake, like the Newcastle coal.

NOVEL LIFE-PRESERVER.

Among the numerous inventions which have been brought before the public, for the preservation of life at sea, is one just introduced by Messrs. B. Taylor and Co., of Great Dover-road, which, from its simplicity, and general utility, bids fair to become of great importance, and very general use. It consists in the employment of cork for stuffing mattresses, bedding, squabs, bolsters, pillows, hammocks, boat-cushions, &c. From its durability, cleanliness, non-absorbence of moisture, and its perfect freedom from animal and vegetable oils, which property entirely prevents the harbour of bugs, fleas, or any other description of nexious insects, it is invaluable for all kinds of furniture-stuffing used in domestic life on shore, and particularly in warm climates, in dwelling-houses, hospitals, unions, barracks, prisons, or police stations; but its great utility and importance will be found in its floating powers—rendering it an unequalled life-preserver in cases of shipwreck, or accidents in rivers, or at sea. In steamers, or sailing vessels, going distant voyages, where the hammocks of the crew, and the berths of the passengers, are fitted up with this cork stuffing, no additional room is taken up by any description of life-preserving apparatus, and no additional cost incurred, and yet, in case of need, it forms one more powerful and easy of application than any other that we are aware of. As there would be one of these floating mattresses to each person on board, capable of sustaining at least 12 persons, not only would a whole ship's crew and passengers be saved, but a large amount of valuable property might be secured; and, in cases of danger, when time could be taken advantage of, by simply lashing them together, a raft might be formed, and loaded with provisions, which would safely float through any sea, and be the means of saving all on board from premature death. Or, simply in case of a person falling overboard, one of these mattresses, thrown over, would infallibly save him until he could be picked up. In case of any warlike attack, they would form most excellent guards from musket shot, being placed in the ship's waist in the usual manner, and would prove very far superior to the common hammock. The mode in which the cork is prepared for the purpose, is by cutting it into slips, not thicker than paper, and these again into threads, which, curling together, forms a stuffing superior to feathers, or flock, for health, and equal to hair for elasticity. The great difficulty which the patentees have had to contend with, in the production of cork in a thread-like form, has been in perfecting the machinery for cutting it, and seven years have already elapsed since they first commenced operations; we are informed, however, that it is now brought to a state of maturity, by which this tough material, so difficult to be cut, can be produced in fine fibres, and with great rapidity. We have no doubt these mattresses and other articles will come into most extensive demand; and we are informed, that one of our most esteemed naval commanders has given the proprietors permission to state, that he considers the cork mattress one of the best things ever invented for conveying a line from a stranded vessel to a lee shore.

EXTRAORDINARY OPTICAL ILLUSION.—Professor Wheatsone, in his indefatigable researches into the abstruse, but beautifully interesting, phenomena of light and optics, discovered a property in optics, previous to the perfecting of calotype pictures, to which Mr. Cundell has since successfully applied it, and which, while most extraordinary, in an optical point of view, will probably lead to discoveries in the delicate arts of obtaining sun-light pictures, and the effects resulting from them, of very considerable importance. A board is provided about 2 ft. long, and a few inches in breadth, at each end of which is an upright piece truly perpendicular, with a groove at top and bottom, for sliding in a picture; in the centre of this board, at the height of the centre of the uprights, are placed two small mirrors, at an angle of 45°, with the edges of the board, or 90° with each other, in front of which is a pieces of metal with sight holes, sufficiently apart to suit the sight. On placing two calotype pictures of the same object in the grooves, against the uprights—such, for instance, as a jug, vase, piece of statuary, geometrical figures, &c., each eye of course sees the reflection in the corresponding mirror of one picture only, the left hand picture being seen by the left eye, and the right hand picture by the right eye; yet, the singular result of this arrangement is, that the spectator sees before him a *fac simile* of the object from which the pictures were obtained in its original state, with the lights, the shadows, the under cuttings, and all the full roundedness and projecting points of the solid body. In fact, so complete and beautiful is the illusion, that it is impossible, by any attempt, to see the pictures as viewed separately, and a perfectly finished solid body is represented to the eye of the astonished viewer. It must be pictures taken by sun light, in different points of sight, to have the effect, as no two drawings by hand could be done sufficiently correct to prevent confusion in the shadows, and meeting of the corresponding lines. Professor Wheatstone, in the first instance, applied it to the reprssentation of geometrical solids, which may be drawn mathematically true, and shaded to Nature. We are indebted to Messrs. Horne, Thornthwaite, and Wood, opticians, of Newgate-street, for an inspection of this singular phenomenon; which, with a good collection of duplicate calotype pictures, would produce a source of endless amusement.

PURSUIT OF SCIENCE.—In a letter from Mr. Brune, to Mr. Rawlins, June 14, 1735, in the Bodleian collection, he states that one Mr. Vernon followed a butterfly 9 miles before he could catch it.

MONSTER MONOPOLY.—We hear that a proposition has been made to the coalowners of this district, by a company, to buy all the coal they have to send to London during the next three years, at the regular price, and pay for them weekly.—*Newcastle Chronicle.*

Why did the Romans work their mines unfairly?—Because they *chiselled* them.

A WONDERFUL CURE OF WOUNDS AND A DEBILITATED CONSTITUTION BY HOLLOWAY'S OINTMENT AND PILLS.—Mr. Mate, storekeeper, of Gundagai, New South Wales, states that these medicines have effected a most astonishing cure on a settler in his vicinity who was dreadfully afflicted with wounds in various parts of his body, and whose constitution was so debilitated that it was thought impossible for him to survive, but the curative powers of Holloway's ointment and pills have performed wonders, for this young man has been completely cured, and so extraordinary is the case, that the editor of the *Sydney Morning Herald*, has given publicity to it in his paper of January 4, 1846. Sold by druggists, and at Professor Holloway's establishment, 244, Strand, London.

* This is assumed to be the same stratification which supplies the iron smelting establishments of Redcedale and Hareshaw, in the county of Northumberland.

EASTERN ARCHIPELAGO COMPANY.—Incorporated by ROYAL CHARTER.

Capital £300,000, in 2000 shares, of £100 each.
CHAIRMAN—JOHN MACGREGOR, Esq., M.P.
BANKERS—Messrs. Glyn and Co.

The objects of this company are to carry on MINING, AGRICULTURAL and TRADING OPERATIONS in the EASTERN ARCHIPELAGO, and the ACQUIRING and DISPOSING of lands in the island of LABUAN, and the parts adjacent (BORNEO)—a region abounding in mineral wealth—most fertile in all the valuable tropical productions, and very happily situate for the purposes of commerce. The working of the coal mines in those districts, so highly important to the promotion and extension of efficient and economical steam communication with our eastern possessions, will form a main feature in this company's operations.

By virtue of the company's charter, each shareholder's responsibility is limited to the amount of his subscription; and the capital may be increased to £400,000, and further increased with the consent of the Board of Trade.

A detailed prospectus, with a form of application for shares, and an inspection of a copy of the charter, may be obtained at Messrs. GLEDSTANES & CO.'s, 3, White Lion-court, Cornhill.

EASTERN ARCHIPELAGO COMPANY.—APPLICATIONS FOR SHARES can be RECEIVED till TUESDAY, the 13th June only, when the shares will be allotted.

W. WOOLLEY, Secretary pro tem.
3, White Lion-court, Cornhill, May 31, 1848.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, No. 122, Leadenhall-street, London.

NOTICE TO SHIPPERS OF GOODS AND PARCELS per PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S STEAMERS to INDIA and CHINA.—GOODS and PARCELS, sent direct to the company's Parcel-office, at or before 6 P.M. on the 17th of each month, are FORWARDED at less cost to the shipper than when sent through any intermediate channel. Cases must not exceed 112 lbs. weight each for Aden, Ceylon, Madras, Calcutta, and China; and 40 lbs. each case for Bombay. No package for India and China can, under any circumstances, be shipped at Southampton, unless it be cloared through the Custom-house, and placed alongside the steamer by noon on the 19th of each month. Detailed particulars can be obtained on personal application or by writing.—Parcel Department, 122, Leadenhall-street, May 13, 1848.

EMIGRATION.—PERSONS EMIGRATING may obtain a FREE GIFT of FORTY ACRES, and upwards, of the BEST LAND, in the most healthy and productive portion of the UNITED STATES. Also, LAND FOR SALE, from $1 per acre. Passengers shipped to all parts of the world, and supplied with bonded stores, provisions, &c., on the lowest terms.

Apply (if by letter, post-paid) to the General Passenger Shipping and Land Agency Offices, 15, Eastcheap, London, and 32, Waterloo-road, Liverpool.

SCOTTISH CENTRAL RAILWAY—OPENING OF THE WHOLE LINE.—The PUBLIC are respectfully informed, that the LINE of the SCOTTISH CENTRAL RAILWAY was OPENED THROUGHOUT, for PASSENGER TRAFFIC, on MONDAY, the 22d May. The TRAINS START as follows:—

FROM PERTH TO EDINBURGH AND GLASGOW,
At 6.30 and 9.45 A.M.; and 1.30 and 6.45 P.M.

FROM EDINBURGH TO PERTH,
At 7 and 11 A.M.; and 2 and 4.30 P.M.

FROM GLASGOW TO PERTH,
At 7.30 and 11.30 A.M.; and 2.30 and 5 P.M.

ADDITIONAL TRAINS
Are also proposed to run between GLASGOW and STIRLING as follows:—

FROM GLASGOW TO STIRLING,
At 7 P.M.

FROM STIRLING TO GLASGOW,
At 9.45 A.M.; and 5 P.M.

For further particulars, see Time-bills.
ROBERT D. KER, Secretary.
Railway Office, Perth, May, 1848.

CALEDONIAN RAILWAY COMPANY—LOANS ON DEBENTURES.—TENDERS of LOANS ON DEBENTURE BONDS are now RECEIVED in sums of not less than £500, for any number of years not exceeding five. Interest to be at the rate of 5 per cent. per annum, payable half-yearly, in London, Edinburgh, Glasgow, or in any country bank.

Tenders to be addressed to this office, giving full name and address of lender.—Parties may also communicate with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order,
D. RANKINE, Treasurer.
Caledonian Railway Office, Edinburgh, Feb. 25, 1848.

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—At a General Meeting of the Society, held at the London Tavern, on Monday, the 29th of May, 1848,

THOS. BRIDGE SIMPSON, Esq., V.P. and Treasurer, in the chair,

The following gentlemen were unanimously elected as Vice-Presidents:—

James Haywood, Esq., of the Phœnix Foundry, Derby.
Joseph Bonnitt, Esq., of Dudley.
John Brown, Esq., Dowgate Iron Wharf, Upper Thames-street.
William Samuel Burton, Esq., of 39, Oxford-street.
Joseph Oliver, Esq., of 286, High-street, Wapping.
Benjamin Fowler, Esq., of Dorset-street, Fleet-street.
John Powell, Esq., Clydach Iron Company, Glamorganshire.
Alexander Robertson, Esq., of Sheffield.

The meeting then proceeded to the ballot for the election of three men and two women, as additional pensioners, at the close of which the following votes were recorded—viz.:

For William Swap	Votes 1215	For Sarah Mason	Votes 1153
F. J. Bray	322	Sarah Darby	1067
William Williams	443	Annie Horton	27
Henry Hinton	1171	Sarah Brown	153
John Peaten	673	Sarah Ann Smith	517

Whereupon the chairman declared William Swap, Henry Hinton, John Peaten, Sarah Mason, and Sarah Darby, elected to pensions of Twenty Guineas per annum.

Resolved unanimously,—That the thanks of this meeting be presented to the several gentlemen who have officiated as scrutineers.

Resolved unanimously,—That the thanks of this meeting be presented to the honorary secretary, for his indefatigable exertions on behalf of this society.

Resolved unanimously,—That the thanks of this meeting be presented to Mr. Benjamin Ridge, for his valuable services as honorary collector.

Resolved unanimously,—That the proceedings of this meeting be advertised under the direction of the committee.

Resolved unanimously,—That from the encouraging prospect of a large accession of new annual subscribers, the number of whom is already nearly 120 within the present year, it appears to this meeting desirable that another election of pensioners should take place in November next, and that the committee be recommended to make arrangements accordingly.

Resolved unanimously,—That the cordial thanks of this meeting be presented to Thos. Bridge Simpson, Esq., for his valuable service this day as chairman.

67, Upper Thames-street, London. THOMAS HAWKINS, Hon. Secretary.

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—NOTICE—The FIFTH ELECTION of PENSIONERS of the above society will take place in the month of NOVEMBER next. The candidates must be deserving and necessitous persons, occupying, or having occupied, the station of master, traveller, clerk, warehouseman, foreman, or apprentice, in any branch of the iron, hardware, or metal trades, in any part of Great Britain; or the widows of such persons. The printed forms of application may be had of the undersigned, to whom they are to be returned, filled up with the required particulars, on or before the 7th of August next, after which day no application relating to this election can be received.

Further information may be obtained on application to any members of the committee in town or country; or to THOMAS HAWKINS, Hon. Secretary.
67, Upper Thames-street, London.

LONDONDERRY MINING COMPANY OF NOVA SCOTIA.—Capital, £80,000, in 2000 shares, of £40 each.

It is provided that 21 days' Notice be given of each call, and that no call exceed 20 per cent., and that successive calls be not made at less than six months, and that the aggregate amount of calls, made in any one year, do not exceed 40 per cent.

Incorporated by Act of the Provincial Parliament.

The following directors have been named in the Act (together with other persons) as constituting the corporation; and they are to continue in office until superseded, or confirmed, by a vote of the London shareholders—viz.:

The Hon. W. A. BLACK,
The Hon. J. E. FAIRBANKS, } Members of the Legislative Council.
The Hon. ALEX. KEITH,
J. W. JOHNSTON, Esq., Advocate-General.

This company has been formed for the purpose of WORKING a MINE, recently discovered, of IRON ORE of superior quality and richness, situated in the province of Nova Scotia, about 70 miles from Halifax, and about seven miles from a good shipping port, in the Bay of Fundy.

This extraordinary deposit of specular iron ore has been surveyed by Dr. Gesner and J. W. Dawson, Esq., provincial geologists. Extracts from their reports are appended to the prospectus, and other unquestionable references.

"To John Ross, Esq., of Truro, Nova Scotia.

"DEAR SIR,—It gives me great pleasure, in reply to your request, to express the high opinion I entertain of the talents, acquirements, sagacity, and high qualifications of Mr. J. W. Dawson, of Pictou, as a mineral surveyor and geologist, of which I had an opportunity of judging during an examination, which we made together, of several parts of Nova Scotia, and, among others, the district of the Folley river—to the valuable ores of which you are now directing public attention.

I may further add, that Mr. Dawson's name is now well-known to the Geological Society of London by several Memoirs on the Geology of Nova Scotia, accompanied by maps and sections, published in their *Proceedings* and *Quarterly Journal*.

"I have the honour to be, dear Sir, yours, &c.,
"11, Harley-street, May 2, 1848." (Signed) "CHARLES LYELL."

Application for shares will be received by Mr. Charles Walton, of the firm of Charles Walton and Sons, Newman's-court, 73, Cornhill.

One-third of the capital stock of the company is reserved for the colonial shareholders—the remaining 1333 shares are offered to capitalists in London, until the 20th inst.

Printed forms of application may be obtained with the prospectuses, where the Act may be seen.—Prospectuses may be obtained, and specimens of the ore seen, by applying to Messrs. Royston and Brown, 40, Old Broad-street; Messrs. Charles Watson and Sons, 73, Cornhill; or on application to Mr. Henry English, 25, Fleet-street.—Prospectuses can also be had at the office of the *Mining Journal*, 26, Fleet-street, London.

MINING AND GENERAL MUTUAL LIFE ASSURANCE SOCIETY.

Registered Provisionally, under the Act of Parliament, 7 and 8 Vic., c. 110.
Temporary guarantee fund, £100,000,

In 5000 shares, of £20 each.—Deposit £2 per share.—In pursuance of the Registration Act, 2s. per share only will be payable on taking up the shares.

One-tenth of the entire profits of this association to be applied to form a fund, for securing annuities to aged members and their widows and orphans—to the relief of deserving and distressed miners—and towards founding and supporting charitable institutions in connection with mining interests.

PRELIMINARY PROSPECTUS.

As the knowledge of the principle of life insurance has been more and more diffused, and the manifold advantages of the system appreciated, the number of assurance offices has been constantly and rapidly on the increase. Nevertheless, the persons who have hitherto availed themselves of the benefits of this system, are comparatively few in number. Of the 20,000,000 of inhabitants of Great Britain, not more than 120,000 persons have taken out policies on their lives in all offices; so that it may not be too much to say, that the system of life insurance has scarcely passed the first stage of development.

This fact alone is sufficient to demonstrate the ample room existing for the further extension of the system; while the flourishing condition generally of the assurance offices already established, not only proves the soundness of the principles on which they are founded, but affords a guarantee for the like success of additional establishments, having the same objects in view, and conducted with equal prudence and ability.

As life insurance has been thus extended, various sections of the community have been induced to form their own establishments, so that all professions, and several industrial as well as religious classes, have now each their own assurance offices—adapted to the peculiar circumstances of those portions of society with which they are respectively connected, and mainly dependent on them for support.

It is, however, remarkable, that while in the metropolis alone the life assurance companies of all classes and descriptions exceed 100 in number, with engagements computed at upwards of £115,000,000 sterling, those companies do not comprise one emanating from or connected with the MINING interests, which are those of a class that has done more than any other to develope the resources and promote the extension of the commerce of the country. So long, then, as this important and influential section of the community possesses no assurance association, especially identified with its interests, it is manifest that a large void in the system of life insurance remains to be filled up.

The various individuals directly connected with mining operations in this kingdom, are far more numerous than the members of the clerical, medical, and legal professions, which have established among them no less than nine different assurance companies. The persons directly employed in the mining operations of this country are about 243,311 in number; the annual value of the mineral productions is £37,622,000; and it is calculated that the mine proprietors, agents, and those connected immediately or indirectly with mining interests, represent an amount of population, and of fixed property, exceeding those of nearly all the other classes of the kingdom having representative assurance institutions. This wealthy and powerful class, undoubtedly, requires the formation of an establishment bearing its own name, conducted principally by well-known members of its own body, and especially adapted for the extension of the advantages of life insurance among the numerous individuals of which it is composed. For this purpose, the

Mining and General Mutual Life Assurance Society

is proposed to be established. Its formation is also called for in consequence of the working miners being either excluded from existing offices, or subjected by them to a considerably higher scale of charges in the annual premiums than experience has shown to be necessary. The mining interests possess more than ordinary power and influence to promote all the objects which such an institution is calculated to effect; and, in submitting the present scheme to the public, it has been determined to base the society upon principles which cannot fail to command its countenance and support.

1. By the formation of a fund, to the extent of 1-10th of the profits of the association, to be called the "Miners' Widows and Orphans' Fund," for securing annuities for old age to members insured for the whole term of life, and for constituting a perpetual and increasing provision for deserving and distressed miners and their widows and children, and towards founding and supporting charitable institutions in connection with mining interests.

2. By affording inducements and facilities to working miners to make a provision against the infirmities of old age, sickness, or incapacity for labour, and by assuring small sums at death, on a self-supporting and safe system, free from the objections usually urged against sick societies and mine clubs.

THE CONSTITUTION OF THE SOCIETY.

1. The society to be established on the principle of *mutual* assurance, as being the most economical, and the best and most legitimate mode of individual protection.

2. The interests of the assured to be at the outset protected by a temporary guarantee fund of £100,000, divided into 5000 shares, of £20 each, deposit £2 per share. The experience of well-established offices justifies the expectation that not more than £2 per share will be required to be paid up. On the capital advanced, the shareholders to receive interest at the rate of £5 per cent. per annum; and the capital to be paid off when the shareholders' proportion of the net profits amounts to a sum equal to that originally advanced, and £100 *per cent., by way of bonus.*

3. The affairs of the society to be investigated, and the profits ascertained and apportioned at the end of every five years; and, after such a sum shall have been reserved as shall be deemed amply sufficient to meet all contingencies, and to enter into the average of succeeding years, the profits to be divided as follows:—

Four-fifths of the profits to be apportioned among the members assured for the whole term of life, on the participating scale of premiums, and the amount may either be added to the policy, to increase the sum insured, or may go in reduction of future premiums, at the option of the assured.

Of the remaining one-fifth of the profits, one moiety (or the 1-10th of the entire profits) to be appropriated to the "Miners' Fund," and the residue to be invested as an accumulating fund for the extinction of the paid-up capital; and as soon as such fund shall equal the capital advanced, with £100 per cent. on the whole, by way of bonus, the shareholders to be paid off, and thenceforward the whole of the profits, except the 1-10th appropriated to the "Miners' Fund," to be divided among the assured.

THE BUSINESS OF THE SOCIETY.

LIFE ASSURANCE.

1. Assurances on single lives, on joint lives, and on survivorships.
2. Assurances on the lives of persons about to proceed to, or reside in, foreign climates.
3. Tables framed for non-participating policies on a lower scale of premiums.
4. Tables on original data, computed for the express purpose of enabling miners and others to insure against sickness or old age, as well as to secure a provision for their families at death.

ANNUITIES.

5. Immediate annuities to be granted, and deferred annuities to be secured, to commence at any specified age.
6. Reversionary and survivorship annuities to be granted.
7. Tables to be constructed, to enable the operative miner to secure a deferred annuity of £10 and upwards for old age, and an annuity payable to his widow and children after his death.

ENDOWMENTS.

8. Educational and other endowments for children to be granted.

This is the only office identified with the interests of miners, and if they avail themselves of their own institution for the purpose of securing the vast amount of insurances which they may effect or influence, it is obvious that its success must speedily equal that of any assurance company in the kingdom.

In order that the objects of the society may be more successfully carried out, the board of directors will be principally composed of gentlemen connected with mining and the manufacture of metals; and it is believed that the efforts of the members of this numerous and influential class in the establishment of the "Mining and General Mutual Life Assurance Society," will open an extensive field for operation, and prove advantageous to the mining interests.

It is considered that the shares of this society will be regarded as offering a desirable investment to a limited amount, abstracted from all inducements to speculation; and the promoters look to the circulation of this prospectus through private channels for securing that support which they have been in various quarters encouraged to expect.

In the allotment of the shares, preference will be given to applicants connected with mining interests, and a due proportion will be reserved for medical men and mine agents supporting the interests of the company.

On the deposit of £2 per share, 2s. only will be required to be paid on taking up the shares, and the remainder upon the execution of the Deed of Settlement.

Application for shares, in the form annexed, addressed to the provisional directors, may be sent, for the present, under cover, to the office of the *Mining Journal*, 26, Fleet-street, City; and to Mr. James Lane, mine share agent, 75, Old Broad-street, City, London.

FORM OF APPLICATION FOR SHARES.

To the Provisional Directors of the Mining and General Mutual Life Assurance Society.

GENTLEMEN,—Please to allot me shares, of £20 each, in the above society; and I hereby undertake—provided that I approve of the board of direction when formed—to accept the same, or such less number as may be allotted to me, and to pay the deposit thereon, and to execute the Deed of Settlement, and all other necessary documents, when required. Dated this day of , 1848.

Name in full .....
Profession or business .....
Address .....

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

RAILWAY AND OTHER IMPORTANT RECORDS, EFFECTUALLY PROTECTED FROM DAMP AND VERMIN.

Extract from the Appendix to the Second Report of the Commissioners on the Fine Arts.

"In 1839, I superintended the construction of a house, of three stories, on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of

SEYSSEL ASPHALTE,*

less than half an inch thick, over which coarse sand was spread. Since the above date, no trace of damp has shown itself round the walls of the lower story, which are, for the most part, painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water. The layer of asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots, indicating the presence of damp, have been since remarked at the base of the door-posts.

The DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of ENGINEERS and ARCHITECTS the application of the ASPHALTE of SEYSSEL, as the *only effectual* mode of preventing damp in basement floors, and water from percolating through the ARCHES of a VIADUCT.

The arrangements of this company enable works of any extent to be executed with the greatest promptitude. I. FARRELL, Secretary.

SEYSSEL ASPHALTE DEPOT, STANGATE, LONDON.

ESTABLISHED 1838.

* This method has been adopted at the New Houses of Parliament.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

W. BROTHERTON AND CO.'S
PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY.

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and finest pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

PATENT FLEXIBLE INDIA-RUBBER PIPES AND TUBING, for Railway Companies, Brewers, Distillers, Fire-Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE-PIPES

are made to stand *hot liquor* and *acids*, without injury—do not become *hard* or *stiff* in any temperature (but are always perfectly flexible); and as they require NO APPLICATION of oil or dressing, are particularly well adapted for *Fire Engines, Pumps, Gas, Beer-Engines, Gardens*, and all purposes where a *perfectly Flexible Pipe* is required.

Made all sizes, from ¼-inch bore upwards, and of any length to order.

Vulcanised India Rubber Garden Hose, fitted with brass-taps, Copper branch and Rose's complete, ready to be attached to pumps, water-butts, or cisterns.

Sole manufacturer, JAMES LYNE HANCOCK,
Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-Rubber Washers, of all sizes, for joints of hot-water and steam-pipes, and *Vulcanised Sheet Rubber*, any thickness, for all kinds of joints, and other purposes.

BRITISH AND FOREIGN PATENT NAIL COMPANY.

(Provisionally Registered 7 and 8 Vic., c. 110.)

Established for the MANUFACTURE of every DESCRIPTION of NAILS necessary for house-building, shipbuilding, and coach-building, together with PINS, SPIKES, BOLTS, &c.—The object of this company is to carry out inventions in machinery, which has been fully tested, and found capable of producing NAILS of a quality equal to the best hammered nails, which can be sold by the company at a less price than the common cut nail. Specimens of the nails, and an estimate upon the working of the company's machinery—showing a dividend of 40 per cent. to the shareholders—may be examined at the offices of the company.

The shares of the company are £5 each, subject to the Parliamentary deposit of 6d. per share.—The calls will not, at any time, exceed 10s., and no call, after the first, will be made without two months' previous notice.

Applications for shares will, for a limited time, be received by the secretary, until the DEED of SETTLEMENT, which now LIES at the office FOR SIGNATURE, is filled up.

By order of the directors, T. PEPPER, Secretary.
Offices, 28, Surrey-street, Strand, London.

PATENT ALKALI COMPANY'S IRON PAINT.—This PAINT, now first offered to the public, is the PRODUCT of a PATENT PROCESS, and possesses VALUABLE and PECULIAR QUALITIES, not otherwise attainable. Its colour is a purple-brown—it is perfectly innocuous—is far more durable than lead paint, and two coats are fully equal to three of any other paint. A single coat will be sufficient to demonstrate this. It dries rapidly, and its durability is very great.

From its chemical composition, it is especially, and above all other paints, adapted to covering iron; also wood, and stuccoed, or brick walls. The peculiar oxidation of the base of this paint makes it impossible that further change should take place in its composition. Its identity with iron secures it from galvanic action, so injurious to the durability of lead paints on iron work. It has been exposed on shipping to the action of seawater, and the sulphuretted hydrogen, so prevalent in sea-ports and tidal harbours, for three years, without change.

Its *cheapness* and *strength* render it admirably adapted for iron railings, farm buildings, and shipping. It will also cover creosoted timber. Price, by the ton, £20, delivered in London. All orders to be addressed to the offices of the company, 20, Fenchurch-street, London; where testimonials may be seen as to the value of the paint.

EVANS, BROTHERS, Agents.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES, FOR MARINE AND LOCOMOTIVE STEAM-BOILERS,

TUBES FOR STEAM, GAS, AND OTHER PURPOSES,
ALL SORTS OF GAS FITTINGS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY,

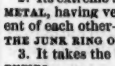
42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER and GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and on the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and are warranted not to open in the weld.

42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM.
WORKS—SMETHWICK, STAFFORDSHIRE.
LONDON WAREHOUSE—No. 68, UPPER THAMES-STREET.

LAP-WELDED IRON TUBES.

W. H. RICHARDSON, Jun., and CO.,
MANUFACTURE every description of WROUGHT-IRON TUBES, for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS,
DARLASTON, STAFFORDSHIRE.



TO ENGINEERS, RAILWAY AND STEAM-BOAT COMPANIES, AND THE OWNERS OF STEAM-ENGINES IN GENERAL.

W. & C. MATHER beg to call the attention of the above parties to their
PATENT ELASTIC METALLIC PISTON.

From the great satisfaction it has already given, they can, with confidence, recommend it. The following are some of its excellent properties:—

1. The great, equable, and mild elasticity: its being perfectly cylindrical and self-adjusting—thereby enabling it to yield, with the least possible friction, to any inaccuracies of the cylinder, whether oval or taper.

2. Its extreme simplicity and lightness—the packing consisting of ONLY TWO PIECES OF METAL, having vertical and horizontal elasticity in due and proper proportion, independent of each other—the horizontal elasticity being also independent of SCREWING DOWN THE JUNK RING OR COVER.

3. It takes the least possible space; and is, therefore, well adapted for air and water pumps.

The above patent was unsuccessfully opposed by Mr. Goodfellow, the patentee of a piston, having *three angular rings*, of a bevil form.

The Solicitor-General conceived that there was not the slightest similarity between them, as may be seen from the subjoined letter from Mr. Carpmael, through whom the patent was taken.

W. and C. M. can refer to upwards of 100, made since the date of the patent (April, 1846), each of which is giving entire satisfaction. They beg to call attention to the fact, that, in a number of cases, they have replaced those made of *three annular rings of the bevil form*, a description of which appeared in the *Mining Journal* of Saturday, October 2, 1847.

[LETTER REFERRED TO.] *April 2*, 1846.

DEAR SIRS,—Mr. Solicitor-General took the hearing in your patent yesterday, at the Privy Council, and decided that the invention did not *interfere*; we are, therefore proceeding with the patent. We are, your obedient servants,
Messrs. Mather. POOLE & CARPMAEL.

The object of publishing the above letter, is to convince parties wishing to use W. and C. Mather's piston, that they have nothing to fear from the caution which accompanied the advertisement referred to, or the unfounded reports which are industriously circulated from the same quarter.

Locomotive and other pistons guaranteed for *twelve months*.
Salford Iron Works, Manchester, Sept., 1847.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

PROFESSIONAL LIFE ASSURANCE COMPANY,

Connecting the Clerical, Legal, Military, Naval, and Medical professions, and holding out advantages to the public not hitherto offered by any similar institution,

Incorporated.—Capital £250,000.

Established upon the mixed, mutual, and proprietary principle.

Rates essentially moderate.—Every description of policy granted. Immediate, survivorship, and deferred annuities; and endowments to widows, children, and others.—Every policy (except only in cases of personation), indisputable.—The assured permitted to go to and reside in Canada, Nova Scotia, New Brunswick, Australasia, Madeira, Cape of Good Hope, and Prince Edward's Island, without additional premium.—Medical men remunerated for their reports.—Loans granted on real or personal security.—One-tenth of the entire profits appropriated for the relief of the assured while living, and of his widow and orphans.—Annuities granted in the event of blindness, insanity, paralysis, accidents, and any other bodily or mental affliction, disabling the parties.—Persons of every class and degree admitted to all the advantages of the corporation.—Rates for assuring £100 at the age of 28, 35, 45, and 55, respectively—namely, £1 14s. 6d., £2 5s. 6d., £3 4s. 3d., and £4 18s. 6d.

Prospectuses, with full details, may be had at the office.—Applications requested from parties desirous of becoming agents. EDWARD BAYLIS, Actuary and Secretary.
Offices, 76, Cheapside, London.

London:—Printed and Published, weekly, by HENRY ENGLISH, at the Office, No. 26, FLEET-STREET, in the city of London, where all Communications and Advertisements are requested to be forwarded—addressed to "the Editor"—post-paid. June 3, 1848.

*** It will at all times save much delay and inconvenience, if communications are directed simply To THE EDITOR, *Mining Journal Office*, 26, FLEET-STREET, LONDON.

And POST-OFFICE ORDERS, &c., must be made payable to WILLIAM SALMON MAWDELL, as acting for the proprietors.